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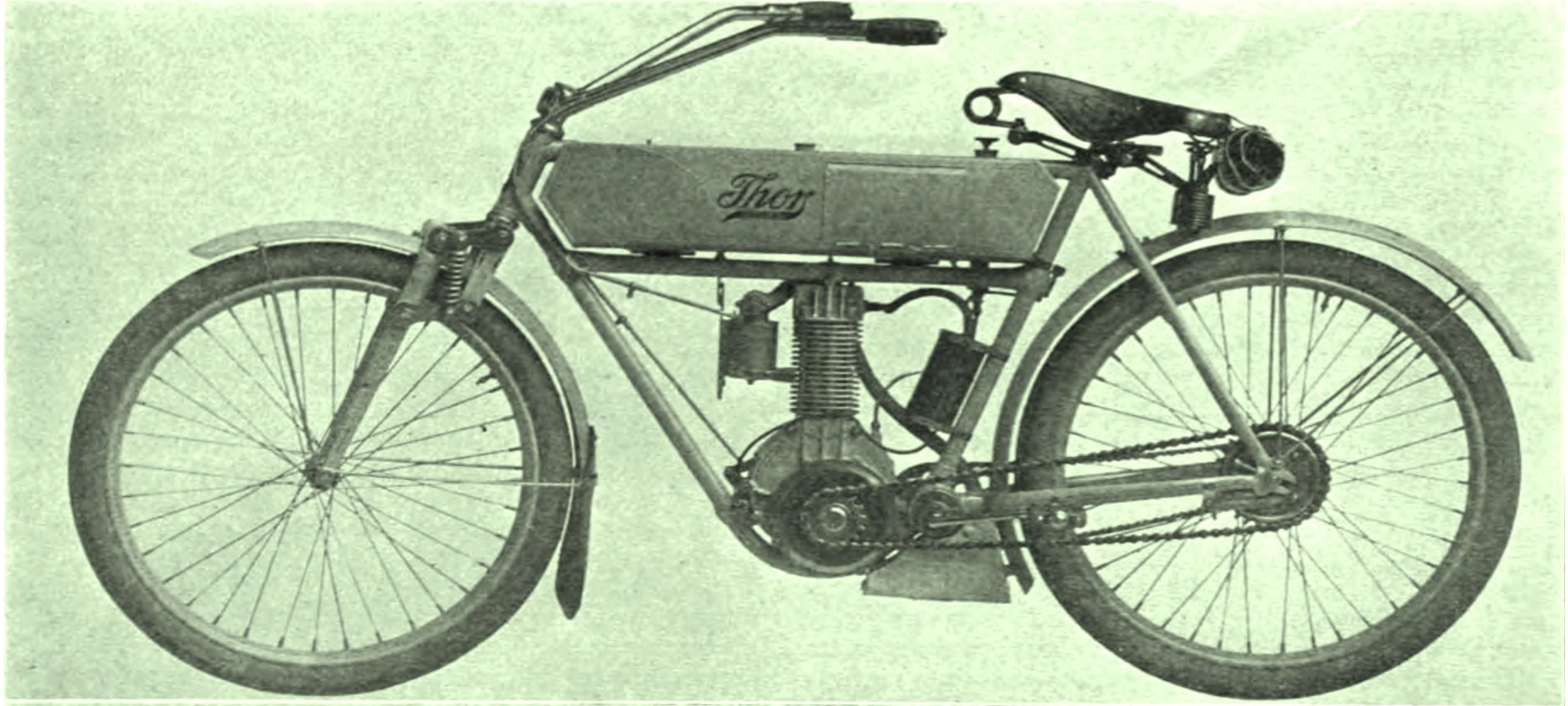

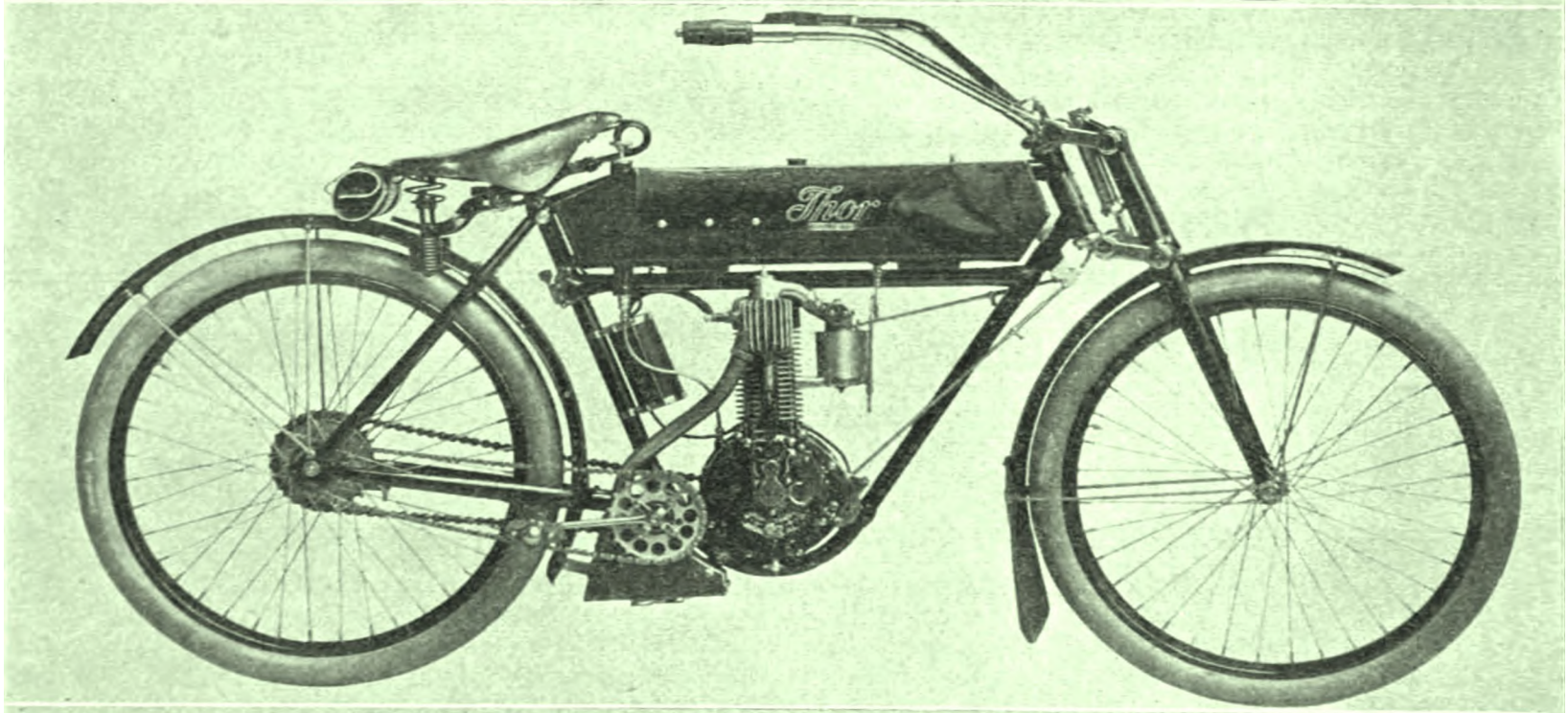

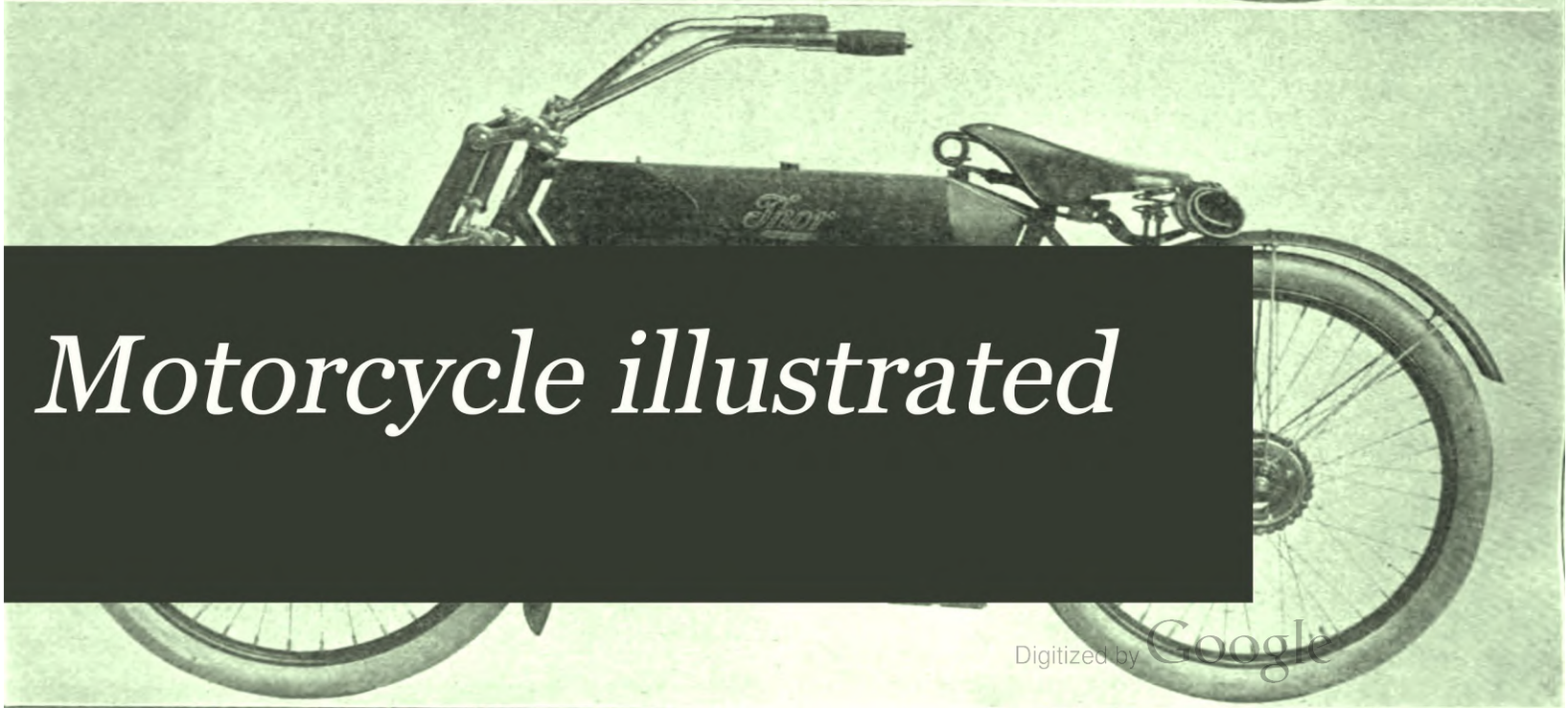

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NOV 5 1909

NEW YORK SHOW FORECAST

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MOTORCYCLE ILLUSTRATED

Vol. IV January 1, 1909 No. 1

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THE '09 INDIAN

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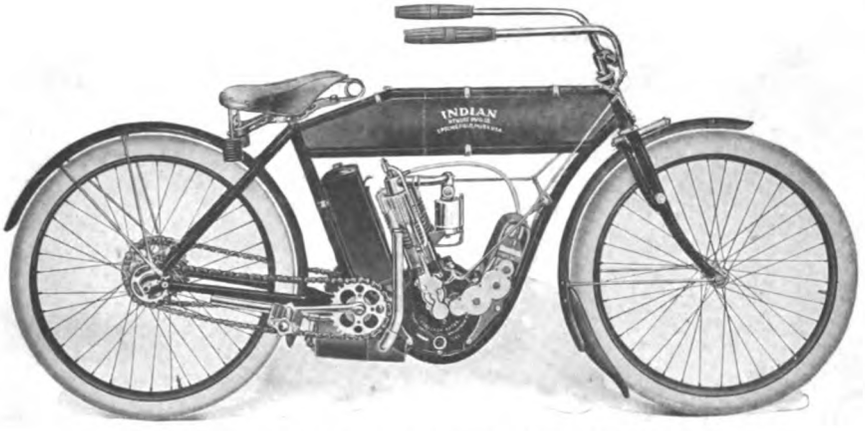

BELT DRIVE

SINGLE CYLINDER MODEL

THREE SIZES

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LOOK FOR IT AT THE GARDEN

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AT WASHINGTON, D. C.,---NOV. 26th

THE "R-S" WINS

First in Twenty Mile Race

ridden from start to finish, without change of machines, by an amateur, defeating some of the most noted riders, one a holder of World's records.

But the R-S is not built for speed only:--it is built for universal use and will give you satisfaction every day in the year. The R-S motorcycle contains all the elements of goodness in well balanced proportions. No other good quality has been sacrificed for speed. The R-S rider wears a satisfied smile all the year 'round.

We build no specials and every rider gets the same kind of a machine for his money.

THE 1909 "R-S" LINE WILL BE INTERESTING!

Dealers who desire to buy the best, sell the best and to give to their patrons the most value, should write promptly to the

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MOTORCYCLE ILLUSTRATED

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NEW YORK SHOW FORECAST

Madison Square Garden, January 16th to 23d

MOTORCYCLES		ACCESSORIES	MOTORCYCLES	
American Motor Co.	Crouch Motor Co.	H. & F. Mesinger Mfg. Co.	Merkel-Light Motor Co.	Pierce Cycle Co.
Auto-Bi Co.	C. H. Curtiss Mfg. Co.	Motor Car Equipment Co.	New Era Gas Engine Co.	Reading Standard Co.
Aurora Automatic Machinery Co.	Excelsior Supply Co.	F. A. Baker & Co.	N. S. U. Motor Co.	Reliance Motorcycle Co.
Consolidated Mfg. Co.	Harley-Davidson Motor Co.	Eclipse Machine Co.	Ovington Motor Co.	Thiem Mfg. Co.
	Hendee Mfg. Co.	New Departure Mfg. Co.	Walton Motor Co., Inc.	
		Persons Mfg. Co.		

THE great New York Show will open on a Saturday evening, the date being January 16. It will run until the 23d. As all America knows, this splendid exhibition of motor cars, motorcycles and accessories will be held at Madison Square Garden, the most beautiful show building in America, and located right in the heart of New York. This great annual event is held under the auspices of the Association of Licensed Automobile Manufacturers. This is a very powerful body and does things in a broad and big way. Its shows have always been a huge success, giving it ample working capital. And as they do not hoard, they are spending thousands—some say nearly a hundred thousand—to make their 1909 show a great success. Much money is lavished on decorating the building, some say too much. But, in any event, the effect is always one of extraordinary beauty, and these elaborate decorations undoubtedly attract the public. The automobile folks and motorcycle folks would attend the show in any event; but outsiders are often drawn there from mere curiosity, and, of course, once being inside of the building, they cannot fail to become impressed by the exhibits. No doubt many of them become converts to either automobile or motorcycle.

The automobile end of the show is too tremendous to even hint at. The exhibits number up into the hundreds, and every available space has been taken. The motorcycle exhibit has been placed in the basement; but this by no means indicates that the surroundings will not be artistic or that the illumination will not be all that could be desired. These exhibits are grouped, and this, of course, is a much better plan than having them scattered throughout the building. Twenty-five firms have taken space, of which nineteen are motorcycle manufacturers and importers, while six make accessories. When it is recalled that there are only about forty manufacturers and importers of motorcycles in this country it will at once be seen that half the trade is represented, but that half stands for eighty or ninety per cent. of the product of this country.

In this issue we desire to make but a brief reference to the motorcycle exhibits. We have asked each one of the exhibitors to send us a short talk on what they are showing for 1909. The idea is merely to indicate to the man out of town what he may expect when he reaches the Garden. The main point is to call his attention to the special features of each exhibit, so that he will be more or less posted before he arrives on the scene. Of course, in our February 1st issue, a detailed account of the show will be published, from the photographic as well as from the technical and practical sides.

The admission to the show is fifty cents, except that on Tuesday and Thursday it will be $1. Out-of-town men must not forget that, during this show, and some days before, the hotels will be absolutely overcrowded with automobile exhibitors and attendants, etc. Therefore, if the visitor wishes to be comfortable, he should at once write for hotel accommodations. For the benefit of those who may not have attended previous shows we mention a few of the hotels convenient to the Garden. And at the same time we suggest that the further away you are located the better, for the hostelries in the shadow of the Garden and along the Great White Way are bound to be scenes of revelry each night, almost all night, and this, of course, means not much sleep, a very necessary factor during a strenuous week of this sort:

The Hotel Astor, Forty-fifth street and Broadway; Belmont, Forty-second street and Park avenue; Grand Union, Forty-second street and Park avenue; Breslin, Broadway and Twenty-ninth street; The Broxtell, 3 East Twenty-seventh street; Cadillac, Broadway and Forty-third street; Hoffman House, Broadway and Twenty-fifth street; Knickerbocker, Broadway and Forty-second street; Holland House, Fifth avenue and Thirtieth street; Herald Square, 116 West Thirty-fourth street; Imperial, Broadway and Thirty-first street; Marlborough, Broadway and Thirty-sixth street; Navarre, Seventh avenue and Thirty-fifth street; Park Avenue Hotel, Fourth Avenue and Thirty-second street; Prince George, 14 East Twenty-eighth street; Latham, 4 East Twenty-eighth street. These are a few of the most prominent hostelries in the city. Also don't forget the Hotel Empire, Sixty-third street and Broadway. This is the F. A. M. headquarters, and is far enough away from the scene of operations to insure quiet.

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Hendee Manufacturing Company.

ASIDE from the novelty of the belt drive as an option on the new loop-frame Indian models, there are many other detail improvements in these machines that will delight the enthusiast. Most of these were noted, however, in the story published in this paper of December 15th. At the Garden the Hendee Company will show the following models: 2¼-h. single cylinder, new loop model, chain drive, battery ignition—3½-h. loop frame, chain drive, magneto ignition—3½-h. loop frame, belt drive, magneto ignition—5-h. twin cylinder, loop frame, chain drive, magneto ignition; and 5-h. twin cylinder, loop frame, belt drive, magneto ignition. This latter machine will be finished in the new Indian green, which, it is expected, will be very popular. There will also be a representative of the diamond frame model.

Among the many features of the new models will be the enlarged tanks, positive fuel cut-off in the tank itself, the window in the engine base, low saddle position, new valve release, the single rocker inlet valve mechanism on the twins, and the small muffler, with its long vent pipe. The coaster band-brake will be probably one of the most original features to be found in the show. Handsome in design, like all Corbin productions, it is a most radical departure from all former efforts and the first of the kind ever produced. The arrangement of the magneto, with its simple and direct drive, is unusually good and convenient. The finish of the 1909 Indians will be in but three colors —royal blue, Indian red and an entirely new tint, Indian green. This latter has been highly praised by all who have seen it.

Auto-Bi Company

FOR the next twelve months the Auto-Bi Company, of Buffalo, N. Y., plans to centralize all its energies on the one "Greyhound" model, description of which was fully given in MOTORCYCLE ILLUSTRATED on November 15. The sole object of the Auto-Bi Company in the design of the "Greyhound" is to build a machine that will appeal most strongly to conservative riders; that is, riders who have gotten over the craze for excessive speed and power, and want a machine that is reliable, able to negotiate any road with comfort, and show a fair amount of speed. In fact, it is meant to be a thoroughly comfortable mount.

Carrying out this intention, one of the two machines which will be shown at the Garden will have as features a new spring fork, the Auto-Bi spring saddle post system, two and one-half inch tires, low riding position, patent chain leather belt drive, and other minor detail improvements that will all contribute to the comfort and peace of mind of the rider. The other machine will be practically the same—a larger engine pulley and a racing seat attachment will be fitted for those who want a little more speed. Both will be listed at $210, with battery ignition, and $250 with Bosch magneto.

Pierce Cycle Company

THE Pierce Cycle Company, of Buffalo, N. Y., will have three of the Pierce four-cylinder, shaft drive machines at the show. One will be finished entirely in nickel, and the others in black and red. It is the Pierce Company's intention to give its dealers an option as to equipment. Any standard fittings will be furnished. On the show machines will be fitted Empire, M & W and G & J tires, and the saddles will be Mesinger, Troxel and Persons.

The main features of the Pierce are: Large tubing of 3½ inch diameter, which is utilized as the receptacle for the gasoline and oil. The motor is a four cylinder, and one of its special features is the automatic force feed lubricating system by which oil is forced directly on all the bearings by means of the gear pump. No attention need be paid to the matter of oiling except about once every four hundred miles. The machine carries sufficient oil to last two thousand miles. The drive is by means of a compensating friction clutch, engaging gears and drive shaft. A New Departure coaster brake is supplemented with a band brake on the rear hub, so that the Pierce has two brakes. One of the strong features of the Pierce is that the engine can be taken out with a very few minutes' work.

New Era Gas Engine Company

ONE of the newcomers in the field is the New Era Gas Engine Company, of Dayton, O. This concern has been known as a large manufacturer of gas engines, pumps, air compressors, etc., for many years; but its entry into the motorcycle business was announced only a short time ago. Its product is a radical departure from the standard lines of motorcycle construction; in fact, the machine is called an "autocycle," since it has many automobile features. Its first appearance, at the Garden, in space 552, is looked forward to by the motorcycling public with a great deal of interest, principally because of the many original ideas embodied in its construction.

The principal features of the New Era autocycle are: low-frame design and long (60-inch) wheel base, handle starting, absence of pedals and substitution of footboard, two-speed and free-engine device and expanding brake (both operated by pedals on the footboards), grip control for both spark and throttle, and large form seat, which is supported by coiled springs. The motor is a single-cylinder, of 3½-h., and the drive is by chain. The oiling system is also a departure from the usual. Instead of a pump, there is an automatic sight-feed drip, which can be adjusted to a greater or lesser flow as desired.

Curtiss Manufacturing Company

IN the exhibit of the G. H. Curtiss Manufacturing Company, of Hammondsport, N. Y., there will be two machines that are sure to attract considerable attention. Both are entirely new. One is the "Wee-man" model, with a seventeen-inch frame, single-cylinder engine and magneto ignition. It is listed at $225. The other is a monster 10-12-h., three-cylinder, at $350. There will also be shown two other singles, a 3-h., at $200, and a 3½-h. at $225. In doubles there will be a 6-h., for $275, and a 7-h., for $300. Magneto ignition will be furnished on all for $25 extra, except the "Wee-man," which comes with magneto only. As heretofore, all Curtiss machines will have V-belt drive. Frames will be twenty or twenty-two inches, and the wheels either twenty-six or twenty-eight, as the purchaser may desire. Tires will be two and one-half-inch exclusively. Among the notable improvements is the new grip control, and the long, V-shaped handlebars. The motor crank-case will hereafter be put together with cap screws, so as to be perfectly flush. There are also a number of other features the Curtiss Company are keeping in the dark till the Show opens.

Merkel-Light Motor Company

THE Merkel-Light Motor Company, of Pottstown, Pa., will have, for 1909, six models—three belt drive Merkels and three chain drive Lights. Of course, the two big features of the Merkel machines will be the ball bearing motor and the cushion frame, both of which have more than "made good" during 1908. The new points to look for on these models are: An original trussed spring fork, the V belt transmission and the mechanically operated force feed lubricating system, with a crank case window for inspecting the level of the oil. Only one of the Merkel models will be fitted with batteries (a 3½-h.

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single); the other two (a 3½-h. single and 7-h. double) will have gear driven, ball bearing, magnetos.

In the Light models there will be 2¾-h. and 3¼-h. singles and a 7-h. double. The singles will be very similar to the 1908 models, with battery ignition; but the twin will have a gear driven magneto fitted. All models will have grip control, spring forks, double top bar loop frames, and will be finished with either twenty-six or twenty-eight inch wheels.

Ovington Motor Company

THE center of attraction at the booth of the Ovington Motor Company, of 2232 Broadway, New York City, importers of the F. N., will be the new shaft drive single that made such a "hit" with the English motorcycling public at the Stanley show last month. It is a 120 pound machine, with a 2¼-h. single cylinder motor, free engine and clutch, with two speed sliding gear transmission. It will be listed at $275. The F. N. "Big Four" will be there, of course, very similar in appearance to the models that have preceded it. Each year sees some minor changes made in the F. N., and this year is no exception. The control is different on the 1909 machine—it is from the handlebar, but by levers, after automobile practice. Pedals are done away with, and footrests are fitted. The frame is lower, and the engine is a little larger. Something entirely new, a two speed sliding gear transmission, will also be shown. This comes as an "extra," of course, and is intended for use when the "Big Four" is fitted with side or forecar attachments for passenger work.

Consolidated Manufacturing Company

YALE motorcycles will be shown in the Garden at space 531, where there will be two 3½-h. models. One will be finished in royal blue and the other in red—these colors will be optional on all 1909 machines. The new Yale has many detail improvements that will no doubt prove very popular. An oil glass is provided in the base of the motor, so that the condition of the lubricant can be readily ascertained at any time, and there is also a pressure relief outlet fitted in the crank case. The tanks have been enlarged—the gasoline capacity now being one and one-half gallons, and the oil tank holds two quarts. These machines will have a 53¼-inch wheel base, the wheels will be twenty-eight inches, and the tires two and a half inch. A one and three-quarter inch flat leather belt will transmit the power, and it is so arranged that the rear wheel can be readily moved by means of adjusters to keep the proper tension on the belt. The list price of the Yale will be $200 F. O. B. at the Consolidated Manufacturing Company's plant in Toledo, Ohio.

Aurora Automatic Machinery Company

SOME big surprises will probably be sprung on the motorcycling public at the Garden by the Aurora Automatic Machinery Company, of Aurora, Ill., makers of the Thor. While other makers have at least said in a general way what their exhibits will consist of, this concern has remained mum up to the present. In fact, it is so very reticent that a great deal of curiosity is being worked up among the riders—which is precisely what the Thor people want. We do know, however, that the Company will show belt drive machines, as well as chain and geared chain transmissions. Another of the features will be a new pneumatic cushion fork, and both battery and magneto ignition will be used. The Thor exhibit will be in space 542, just around the corner on the Twenty-sixth street end of the "Tunnel."

Reliance Motorcycle Company

RELIANCE motorcycles will be staged in seven different models. The Reliance Motorcycle Company, of Owego, N. Y., have prepared a very attractive line for the coming year. The new machines will range from a little "Junior," 90 pounder, listing at $130, to a big 7-h. twin cylinder. The lightweight will develop a full 2-h., and its lines will follow those of standard construction, with loop frame, twenty-six inch wheels, etc. There will be a 3-h. machine, similar to last year's model of the same power, with the exception of the drive. This will be by V, instead of flat belt. The other single is a 3½-h., with mechanical valves. A small twin, 4-5-h. will have automatic intake, and the 7-h. twin mechanically operated valves. Buyers will have an option on all the larger models of twenty-six or twenty-eight inch wheels, of a finish in French gray, crimson or black.

Walton Motor Company

THE Walton Motor Company, Lynbrook, L. I., N. Y., will show three models of the Midget Bi-Car, a 3½-h. single, a 5-h. twin and a 3½-h. two-speed machine with a self-starting motor. Bi-Car features are the channel steel girder frame, division of frame into compartments for batteries, tools, oil and fuel, use of foot-rests instead of pedals and a stand in the center of the machine that allows either front or rear wheel to be raised from the ground. One of its most clever innovations is an arrangement which allows the motor to be swung clear of the frame for grinding in valves or general "tuning up." The Walton Company will also show the Brown adjustable pulley, which was illustrated and described in the November 15th issue of MOTORCYCLE ILLUSTRATED. This pulley allows eight different adjustments, and requires no tools to change the gear ratio.

Mesinger Manufacturing Company

THIS old-established house will show a most complete line of motorcycle saddles and tire repair bands, also an entirely new leather tool box that has been designed especially for the rough usage it will get from motorcyclists. In the "Cavalry" type saddles there will be five different sizes, and in the "Standard" line, four. All of these are fitted with the new Mesinger shock-absorbing spring system. This consists of one light and one heavy set of springs—to take up the minor vibrations and heavy road shocks respectively—and a shock absorber fitted between the two sets. The shock absorber is a friction device that checks the rebound of the springs, and thus prevents breakage and side play. Another of the distinguishing features of the Mesinger saddles is the hinged joint in the front spring. This prevents breakage at this point, and gives the spring more "life."

F. A. Baker & Co.

F. A. BAKER & CO., of 37 Warren street, New York City, has secured a choice location between the Hendee Manufacturing Company's and the Pierce Cycle Company's exhibits. This concern will continue to act as Greater New York and Long Island distributors for the Indian, and it has taken on the Pierce for the same territory, so its exhibit between those of both manufacturers will be very appropriate. "Fred" Baker will be in charge, and will have a full line of accessories and supplies in view. He will also have his new forty page catalogue ready for distribution. This will be filled exclusively with motorcycle fittings and supplies.

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Reading Standard Company

AS in previous shows, the Reading Standard Company, of Reading, Pa., will have a large space at the Garden, in which will be shown a very complete line of the new R-S models. For 1909 there will be both chain and belt drive machines, loop and diamond frames, battery and magneto ignition equipments, singles and twins (the largest of the latter rated at 7½-h.), and on all will be shown many new and exclusive features and detail improvements. Just what these are to be, however, has not been divulged, as the manufacturers want them to come as a surprise to the visitors at the R-S booth during the show. In addition to the above, there will also be representatives of R-S delivery van models, tricars, sidecars and tandems.

American Motor Company

THIS concern will show eight M. M. machines, which they briefly outline as follows: M. M. Road Model, 28-inch wheels, battery ignition, $175. M. M. Special, battery ignition, 26-inch wheels, red, $200. They will also show this same special model with battery ignition, nickel-plated or finished in steel, at $225. They will have on view two models of the special, equipped with magneto ignition, 26-inch wheels, one of which will have a flat belt and the other a V belt. These are listed at $225. The twin is shown with battery ignition and magneto ignition, also with flat or V belt. This is listed at $250, or if enameled in white, $285. The company will also have on view a complete outfit of parts for all their models.

N. S. U. Motor Company

IN the center isle, or the "Tunnel" as it is known, the N. S. U. Motor Company, of 206 West Seventy-sixth street, New York City, will exhibit several examples of the different types of N. S. U. machines for 1909. Most prominent will be the little 3-h. twin lightweight that is expected to prove very popular with American riders. Then there will be the roadsters, made up especially for use over the varied roads found in this country, known as F. A. M. Endurance Models. These are to be the mainstay of the N. S. U. line, and are expected to be very rapid sellers. All of the ten N. S. U. machines for 1909 were described in the last issue, page 20, of MOTORCYCLE ILLUSTRATED.

Eclipse Machine Company

SPACE No. 551 will be occupied by the Eclipse Machine Company, of Elmira, N. Y., who will have on view the complete line of Eclipse hubs and coaster brakes for motorcycles. Brakes will be shown for both chain and belt drive machines, and the new Eclipse hub, with a knock-out axle, will be there; also the parts, showing in detail how the brakes and hubs are connected. The Eclipse Company will also show samples of its machine work, such as head fittings, valve parts, gear wheels, bolts, nuts and machine screw parts. There will be a number of the factory people always on hand to demonstrate and answer questions for all visitors.

Empire Automobile Tire Company

IN its big gallery space the Empire Automobile Tire Company, of Trenton, N. J., will exhibit a full line of Empire motorcycle tires, including Bailey treads, corrugated treads and a raised tread open steam cured tire. This last is cured in the shape in which it is used, the construction being exactly the same as that used in making automobile tires, except that the tire is, of course, lighter. Empire tubes, both endless and butt enders, as well as repair kits, tube cases, repair bands, etc., etc., will also be shown.

New Departure Mfg. Company

A VERY novel exhibit will be staged by the New Departure Manufacturing Company, of Bristol, Conn. Their "Two-in-One" ball ball bearing will be shown, substantially as described in this paper on December 15 (page 24). The adaptability of this bearing to the construction of a motor will be thoroughly demonstrated to all who are interested in motorcycles. There will be some very interesting developments along this line at the New Departure booth, No. 517, in the Garden basement.

Persons Manufacturing Company

AS is usual, the Persons Manufacturing Company, of Worcester, Mass., will be on deck with samples of its leather goods. There will be saddles in all sizes and widths, tool bags, rolls, etc. In addition to these regular goods there will be a number of especially fine saddles, gotten up for exhibition purposes, to show the Persons' ability as leather "craftsmen."

WANT JERSEY LAW CHANGED

THE gauntlet has been thrown down by the New Jersey motorists, and a campaign has been started against the unreasonable features of the present automobile law. Motorcyclists as well as automobilists suffer from some of these provisions. The chief one is the clause which compels motorists from other states to take out a license in New Jersey, even for a short trip, thus refusing to honor the licenses of sister states, as is done by nearly all the other states.

Last year the managers of the Glidden tour went to considerable trouble and changed the route to avoid entering New Jersey. This retaliatory move was imitated by hundreds of tourists last year, and this scheme was not without results. It was originally planned to have the fifty odd cars and 200 participants of the Glidden contest go to Atlantic City and spend two days there. This would have meant considerable revenue to the hotel proprietors, garage men and others at the shore, and the fact that they lost this revenue because of the law did not make the legislators of the state any more popular with them. The general loss of custom to hotel men, dealers in supplies and others because of touring motorists avoiding the state is considerable and it is increasing.

The attention of the Newark Board of Trade has been called to the situation by the New Jersey Automobile Club and the Automobile Trade Association, and now the automobilists will have the support of various business associations throughout the state in the fight against the law. The Newark Board of Trade recently passed a resolution asking for a repeal of that feature of the law that refuses to recognize the licenses of other states, and appointed a committee of ten to present the matter to Governor Fort.

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SOME COMPRESSION TIPS

By THE DOCTOR

EXPERIENCES of motorcyclists are commonly described as "varied," but in one point at least they are uniform, i. e., no matter what machine they ride, or how clever they are, after it has run a certain distance the engine begins to "lose power." It maybe will start off as easily as ever and continue to run with the old reliability, but the rider mournfully recognizes that it is not as fast as it used to be, and that it will curl up on a far more insignificant pimple than of yore. Such loss of power is invariably due to a whole army of minor details and adjustments being just the merest trifle imperfect. Foremost amongst them stands the compression.

There are two items in compression—*quantity* and *quality*. The *quantity*, or "ratio," as it is more properly termed, is fixed forever by the designer of the engine, and consists of the proportion between the volume swept out by the piston (in rising from the bottom of its stroke to the top) and the capacity of the cylinder with the piston at the bottom of its stroke; in other words, it is the pressure in pounds obtained within the combustion chamber when the charge of gas is therein compressed, and it varies from about sixty to eighty pounds per square inch in stock engines. The only attention the rider has to pay to this aspect of the compression is to make dead sure it is not artificially heightened by a crust of carbon deposit on the piston head, cylinder top, etc. Such deposits should be scraped off periodically, or overheating and preignition will ensue.

The *quality* of the compression has nothing whatever to do with the quantity or ratio of the compression; it simply consists in the faithfulness with which the various compression joints remain gas tight and prison the compressed or exploding gases without leakage. The smart rider should ever be watching these points of escape, if he wants to keep his engine running just so, and the following is a list of the points at which compression is lost:

1. Past piston rings into crank case.
2. At joint of loose cylinder head (if two-piece cylinder).
3. Up through core of sparking plug.
4. Past sparking plug washer.
5. Between face and seating of inlet and exhaust valves.
6. Through compression petcock or its washer.
7. Past washers of valve caps.
8. Through a crack or blowhole in cylinder casting.

Escapes under each head may be tracked as follows:

1. Brown patches on exterior circumference of rings. Rings a loose up and down fit in their grooves. Rings a loose fit in cylinder bore when tested therein, piston having been taken out.
2. Blowing felt by hand with engine running on stand. Perished washer at joint. Oil on outside of cylinder. Brown stains on cylinder.
3. Core of plug loose and wobbly, though locknut is tight.
4. Squirt engine oil round washer. Force engine over compression. If oil bubbles, there is no leak.
5. Face of valves, or their seating, is spotted and pitted. Both valve and seating should have a bright, polished ring right round them.
6. Leak through petcock can be felt by hand *when* engine running on stand. Test washer as described under 4.
7. Test washers as described under 4.
8. If leak is very minute, it will only develop when engine is hot. May be traced by muffled, woolly sound of exhaust, or by watching for flame *by running in a dark* shed.

As a general rule, there is not much wrong with the compression of an engine which will bear the rider on the pedal for half a minute or so when the valve is down. But for speed work it is essential to verify every detail by eye as above described, and after the leakages thus discovered have been attended to, many engines will bear the rider on the pedal for several minutes. I get tired of waiting for the compression of my own engine to give in. Now as to cures.

1. New rings, made specially for the engine, and properly ground in to fit, are essential for perfection.
2. Make a fresh joint, with fresh washer, or packing with fish glue or boiled oil, afterward carefully tightening down each bolt one turn at a time.
3. A new plug, fresh packing to the old plug, or a hefty wrench on the lock nut.
4. Fresh washer, carefully tightened down and retightened after a few miles. (N. B.—Fish glue makes a far more reliable joint than any copper and asbestos washer, but it is difficult to shift when hard set, and therefore should be sparingly used for any joints which may often need disturbing.)
5. Grind in valves. Use a fast abrasive, such as diamond carborundum; use a brace and bit, not a weak, stumpy screwdriver. Don't stop till you see the bright ring right around. Plug the hole leading to combustion chamber with a lump of wadding. Carefully wash out all loose abrasive afterward. Thread an old intake valve spring around exhaust valve stem to prevent screwdriver or bit slipping out of notch when valve is turned around. Mix abrasive with oil to a paste.
6. Always make a joint of pet cock with fish glue instead of a washer, as pet cock seldom needs removing. Once every year grind barrel of petcock into its seating with abrasive, and make sure nut and spring bed it home well.
7. I make these joints with fish glue and keep a long, specially fitted spanner to shift them with in case of need, hitting long end of spanner with a brick to start them moving. I find they never leak now.
8. Try and get a new cylinder free gratis from your maker under his guarantee.

THE motorcycle races scheduled by the San Francisco Automobile Dealers' Association, to be run in conjunction with automobile events at the Tanforan track, were not held. C. C. Hopkins, chairman of the Competition Committee of the Pacific District, F. A. M., put the crimp in the program. He sent out the following statement, which accomplished his purpose:—

"No one has authority to announce any motorcycle races at Tanforan December 5 or 6. No sanction has been given for motorcycle races. The Federation of American Motorcyclists (the controlling body of the sport) does not favor mixing automobile and motorcycle races, and while the motorcycle riders of the city are willing to assist this meet in other ways, they will not compete on the track."

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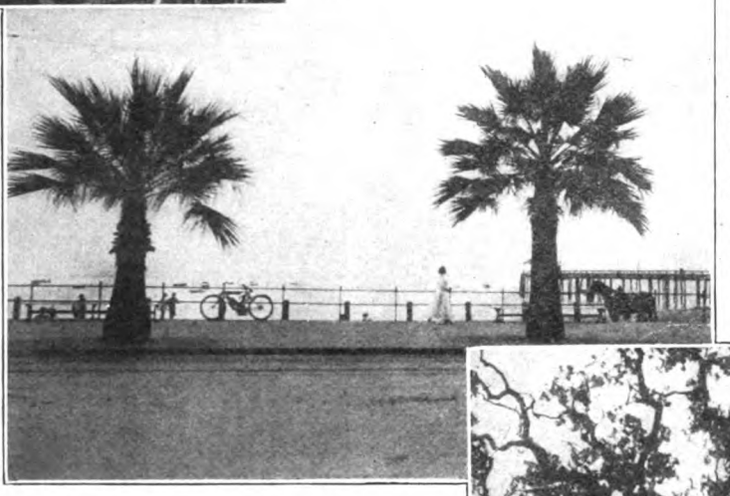
MOTORCYCLING UP THE PACIFIC COAST

PUSHING UP THE FAMOUS NEWHALL PASS.

THE accompanying photographs were taken by O. F. Tainer, a Los Angeles motorcycle enthusiast, on a trip he made last summer from that city to Portland, Oregon. They convey, in a small measure, an idea of the delights of riding through that beautiful country. At Santa Barbara, for instance, to loll around on the waterfront, under the shade of a palm tree, is one of the pleasures that a motorist must avail himself of, even though it be a wait of only ten or fifteen minutes to rest oneself. There are sandy roads, too, to be found in the far west. Examine closely the snapshot taken near El Paso de Robles; that is an example. But these stretches are few and far between. Most of the going is splendid. Roads are macadamized, or of good dirt and clay mixture. Up in the mountains a great deal of loose rock will be met with, but not enough to seriously interfere with riding.



ALONG THE WATERFRONT AT SANTA BARBARA.

Mr. Tainer is somewhat of a tourist. He rides an R-S single, and has covered many thousands of miles on his machine. One of his feats was the crossing of the desert from Salt Lake to Sanberdo, Cal., and now he is up in the "big woods" at Pokegama, Oregon, where he intends to spend the winter in the tall timber hunting, fishing and trapping. He rides his motorcycle everywhere, and on this last trip he climbed over Mount Shasta, a journey that many automobilists travel miles out of the way to avoid. He had two and one-half-inch G & J tires fitted to both wheels, and his only complaint to the Reading Standard Company was that he couldn't put on three inch ones instead. Mr. Tainer says he has found it a fact that the larger the tires the easier they ride, and that the improvement is most noticeable over rocky going and through sand.

The picture of the famous New Hall Pass (which is about twenty miles outside of Los Angeles) was taken by Mr. Tainer just after he overtook a fellow motorcyclist, who was pushing his heavily laden machine toward the summit of the pass. Before the days when motorcycles had the power they now possess, New Hall was one of the terrors of the neighborhood. Only last fall, however, one of the Los Angeles boys rode it on a single-cylinder machine, carrying a passenger on a tandem attachment. In coming down Mount Shasta, Mr. Tainer put his brake to the test many times. He says: "My old Morrow coaster brake stood it fine. I came down some very long and steep rocky grades, where often the rear wheel would slide. Met many teams and pack burros, and would have to stop entirely. Also had a luggage carrier with forty-five pounds of blankets, etc. At first I would think of the strain on the rear tire, and of what might happen if it should fail in a pinch; but I found no cuts or scratches, and later on I paid no attention to it at all, except to keep it hard."

From Portland Mr. Tainer went on to Seattle, Wash., where he stayed for some little time, and then he returned to Pokegama. His trip up the coast took nine days, three of which were spent in sightseeing in the larger cities. Throughout the entire time his machine never faltered for an instant; it was always ready to show a clean pair of heels wherever the going would permit, and on the hills, especially, it proved its metal on many occasions. Most satisfactory, too, was the fact that it always carried its rider to his predetermined destination — there were no lay-overs on the road.

SANDY ROAD NEAR EL PASO DE ROBLES.

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PENETRATING MAINE

Commercial Traveler Covers Large Part of State in His Business Rounds. Fine Roads, Good Hotels, and Curiosity and a Warm Welcome Everywhere

By B. W. FARNHAM

SOME of my fellow riders have, I know, at different times, started for the Maine woods. But most of these attempts have ended before they were fairly commenced, simply because Boston has been made the starting point for an overland trip to Portland. If, instead, you take the steamboat from Boston to Rockland, you will find from there on, as far north as you may wish to go, some of the most wonderful riding to be had anywhere in this broad land. The roads are natural clay and loam, packed hard by years and years of use. I once asked some of the natives how long they had had such fine roads in Maine. One farmer's answer was enough: "Them has always been here," he said.

I left early in September of this year on a business trip through the state. Train service is not just what it might be, and of trolleys there are few, so I made arrangements to do some campaigning for the motorcycle, using one as a mode of travel. I rode an R-S, 3 horsepower, single. This is power enough for any hill I struck. The country is beautiful, the roads cannot be beat, the hotels are small, comfortable, and their service compares most favorably with the better class of large city hostelries. Really it will prove a revelation to any tourists who will make the trip. In the fall of the year there is any quantity of game to be had. Right on the roads I saw six deer, a wildcat, and so many partridges that a good pistol shot could knock them over as he rides along. Then, ten miles off the main thoroughfare, in any direction, you get right back to the primitive life in the heart of the forests.

I took the boat to Rockland, which landed me there about four o'clock in the morning, it being still very dark, with the wind blowing a northeast gale. I was expecting the rain any moment, but got off the boat and rode up to a hotel, the Thorndike, which was a quarter of a mile away. Almost the very minute I arrived there it began to rain heavily. I asked at the desk if there was any place where I could put my machine, and was told to "bring it right into the office." I found the Thorndike to be a very comfortable hotel, and its managers most accommodating. I was told breakfast would be ready in a few minutes, so I sat down and watched the rain. It fell in torrents and continued pouring until a little before dusk. Then I took my motor out and rode up and down the main street two or three times. When I stopped there gathered a crowd of about twenty-five around the machine to examine it.

The motorcycle was a novelty in Rockland. Mine was the only one there; but I was told there was one two or three miles away. People coming home from work, tired and hungry, stood eagerly watching my movements. A man walked toward me in the street just as I pulled up. He made his way through the crowd, touched me on the shoulder, and said he would like to have a talk with me in the morning. I recognized him as a business man whom I had met that day—Frederick Cobb, wholesale grocery dealer. I brought the wheel back into the office, where it was surrounded by an admiring crowd until ten o'clock that night. The bellboys even moved their settee near it to examine it. The dozen catalogues left on the luggage carrier were soon pocketed, and others were asked for.

The next morning dawned clear and bright, and I went to call on the gentleman, already mentioned., with whom I had made an appointment. He told me he had been thinking seriously of buying a motorcycle for some time, and should have one when they "could go," as he expressed it, and were found to be perfectly reliable. He was much surprised when I told him mine could take him up any hill in the vicinity that he would care to ride over, and that I would be pleased to lend it to him for a ride if he desired to try it. He then spoke to me of his bicycling days. He was one of the genuine enthusiasts, and always rode the best wheel money could buy. He also stated that he was very much impressed with the motorcycle since seeing mine, and directed me to call on a young man in the bicycle business in the town and tell him if he would take an agency for a motorbike next year, he, Mr. Cobb, would buy one. What he wanted was some one to keep it in repair. He said: "We must have an agent who will carry a stock of parts and a place where I can have my machine taken care of and cleaned. I do not want to touch the machine after I get it. All I want to do is ride." I called on this bicycle man and found he had already been seriously thinking of engaging in the motorcycle business and I left him with the promise that he would certainly have one or two machines in Rockland another year.

Then I started on my far north jorney by way of Camden. My itinerary was arranged to take in the large cities. The first day I covered the road from Rockland to Belfast, and the next from Belfast to Bangor, where I expected to remain for a few days or a week. I made these short runs simply because the business I was engaged in required some lengthy stops at the places I visited.

Leaving Rockland, I expected to find rough going on account of the rain the day before. I was most agreeably surprised, therefore, to find nothing but smooth road surfaces, very free from rock, with a succession of steep hills. One minute I would be down in the valley and the next on an eminence overlooking the picturesque Penobscot River, which at this point is spread out like a bay, dotted all over with ships and islands. Camden is one of the prettiest place I ever saw. The town nestles comfortably at the foot of the Camden mountains, which seem to rise straight up from the very backyards of the houses. I must needs, of course, get off for a while to enjoy the splendid scene presented to me as I rode toward the city. Here, after inquiring the way, I started, expecting my next stop to be at Belfast. On coming out of the woods a few miles further on I found the landscape most charming to gaze on. Though I did not intend making any stop, I simply could not resist doing so for a while. The view at this point across the river is splendid.

As I stood there an old man came out of the bushes, and, being a native, I felt sure he was greatly complimented when I expressed my pleasure at the grandeur of the surroundings. He asked me if I really enjoyed it, and invited me to stop at the next house on the right, where he would soon meet me and show me other views still prettier. His home was one of those rambling, old, sociable farm houses that we read about, and, putting my machine down, I sat on the wide, vine-covered porch. It was an ideal September day, and I lay there and basked in the sun till the old man arrived. He trotted out the family album and took great pleasure in showing me all the pictures it contained, making comments and explaining them to me. There were photographs of choice bits of scenery in the neighborhood, then one of Sarah Anne, one of the

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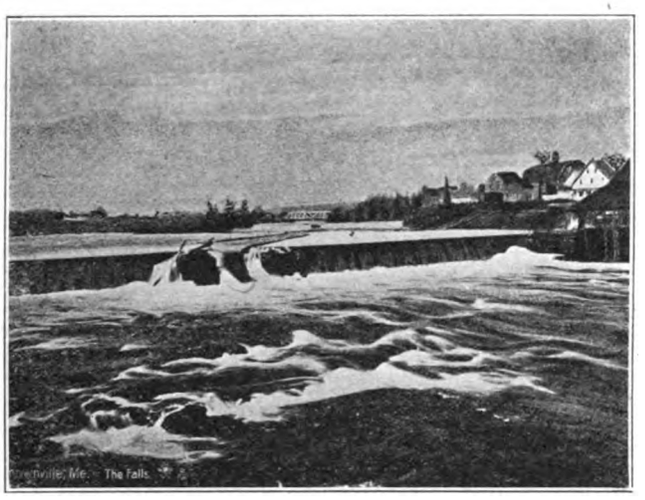
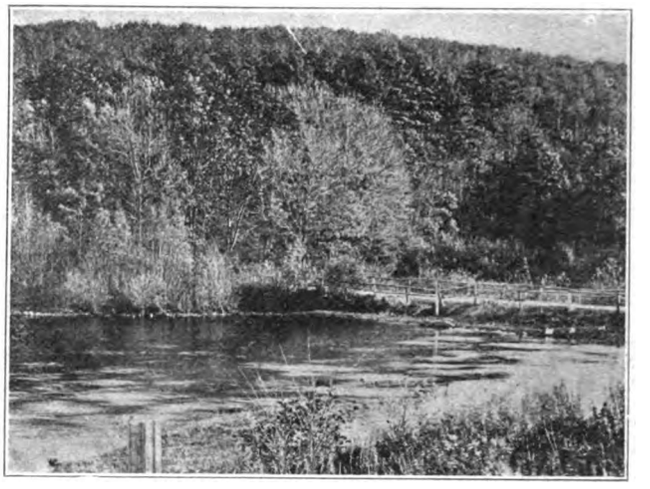


WATERFALLS AT BROWNVILLE, ME.



NEAR THE SOURCE OF THE PENOBSCOT.

prize porkers at the country fair, and a picture of his oldest boy. He entertained me in this way for fully half an hour. There was a cosy little inn across the way, where I went for dinner. The lady there apologized, saying she did not expect any one on account of the lateness of the season and had nothing ready, but that she would do her best for a traveller. This she did, and I was treated to a meal that only a real hungry motorcyclist can best appreciate. The price was twenty-five cents. She declined positively to accept any more, though I told her a quarter was not enough for such a dinner.

On inquiring about the roads on into Belfast they told me I would find the hardest hills in Maine to climb—short and steep. This I found to be absolutely true. You would be riding along apparently in the lowlands, and the first thing you know you would come to a deep gully. There would be a sharp drop, sometimes of fifty feet, with a little brook at the bottom leading down into the river. Standing on my Corbin brake, with all my weight, I could barely keep the machine from running away, and then I would hardly be on even ground before I would be going up a steeper grade. After you got to the top you would be on the same level that you left the minute before. It was for all the world like riding on a scenic railway—you would make a dip and then up you would come, but you would not be any higher than you were at the point from where you started. The scenery at all times was delightful, and with the exception of going down these steep grades there was no time but that you could ride with one hand on the bars, and quite a few times with arms folded. This is a habit I have, by the way. When the roads are smooth I like to ride along at my ease, let the motor hum, and watch the scenery go by.

Just as I gained the crest of a hill, about three miles away, I saw the spires of the city of Belfast. Thence I rode over a beautiful stretch of road, practically level, with no speed limit, until I got to the junction of two thoroughfares. There the familiar "Automobiles 8 miles an hour" sign greeted me. I immediately slowed down and rode up to the Phœnix House. This Phœnix House, if any of you fellows happen to hit Belfast, is the place where they will take care of you and will make it sociable. They gave me a perfectly safe place for my motor for the night, handed me the key of the little store room, and I pushed my machine in there and locked it up. I reached Belfast about three o'clock in the afternoon, and by next morning my business was completed and I was ready to leave for the next place on my route. I was told before starting that the road I was now to travel was not excelled for its beauty in all Maine.

After crossing a small branch of the Penobscot, the road led me parallel to this river, and, looking ahead, I saw the Boston boat, which had left Belfast some time before my start from there. I followed along, admiring first the road, then the river and the boat. It was a pretty sight. The passengers on the boat were just getting up on the decks and were enjoying the magnificent sights around them. I slowed the machine down and rode alongside of them. Greetings and salutations were exchanged, and handkerchiefs waived. In a little while I came into the village of Searsport, a sleepy little town, the home, as I was told, of a number of wealthy retired sea captains. I was there probably for two hours. Immediately on stopping the machine, there was the usual crowd assembled, asking all manner of questions about it, inquiring where I was bound for and where I had come from. I told them all I could; but the machine seemed to mystify them a great deal. After finishing my business I took the road again—my next destination being Bucksport. Here I encountered as hard hills to negotiate as I had ever tackled. Some of them were surprising. Finally, on coming to where I would have to take the ferry, as Bucksport was on the opposite side of the Penobscot, I got off the wheel, not daring to ride down the steep embankment to the ferry, although there was the semblance of a road. I walked down and found on the wharf a large general store, which was locked up, neither was there any signs of a ferryboat. I rang the bell that was hung on the end of the dock, and immediately saw a boat putting out from the other side. On landing, the boatman was much surprised to see a motorcycle. Before offering to take me I had to show him the machine and how it worked. He remarked that he wished I carried a spare propeller, as then he would not have to row against the current, which is very strong at this point. Finally we lifted the machine very carefully into the dory and I set it on the stand in the center. On reaching the other side I cheerfully paid the twenty-five cents, and, pushing the machine up the bank, I got on it and rode down the main street of Jed. Prouty's old town—Bucksport.

My machine attracted the same attention here as in other places, and after answering a few inquiries as to how far a person could go with "one charging," as most of them termed it, and concluding business, I began the last stretch for Bangor. The weather looked threatening, and I thought it would be more desirable to spend a rainy night there. From Bucksport until you get within two miles of Bangor the scenery is as wonderful and romantic as can be found anywhere. For instance, you will be riding through the woods apparently miles away from the river, and all of a sudden it will burst into view.

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It was on a Thursday that I got into Bangor. My business held me there until Saturday. Sunday morning dawned cold and cloudy. It looked as if a snowstorm was coming. I was aching for a ride, so I took the machine out for a spin around Bangor. After dinner it had cleared off warm and balmy, and on making inquiries of a local game warden he told me of a nice hotel in the town of Lincoln, which he thought was about thirty-five miles away. Thinking I could make that distance easily, I filled my tank with gasoline and about three o'clock started on the first leg of the two hundred and odd mile journey north from Bangor. I passed through the town of Orono, and at Old Town I again crossed the Penebscot, which looked vastly different at this point to what it did when I started from Rockland. I was told that a little distance out of Old Town I would find the only sand for the 200 miles. The road follows the river the same as below Bangor, and the latter is in view constantly. In a short time I came to the three miles of sand, but it was nothing to what we call sand in Massachusetts and other places in New England where I have ridden. There were good side paths the whole distance. It began abruptly and ended abruptly, and then the roads were practically level and smoother than a great many of our boulevards. I rode as I pleased, taking little or no care to pick my road.

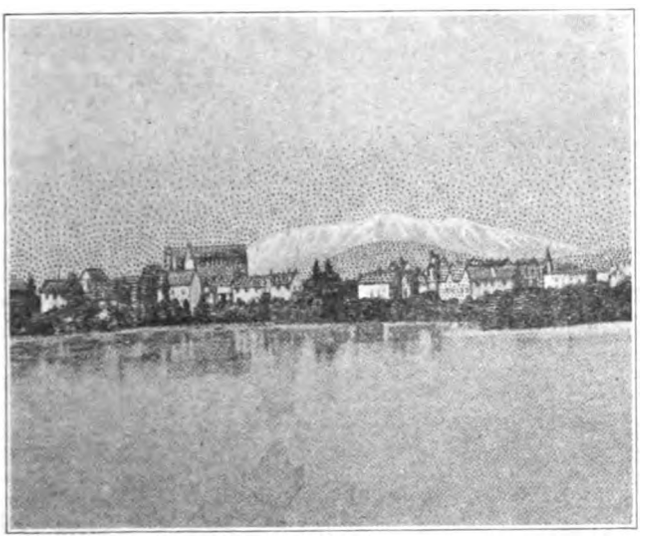
I soon found out that I was directed wrongly at Bangor, as the distance, instead of being thirty-five miles to Lincoln, was nearly sixty-five. I had been loafing along and had lost so much time that it would be impossible to make Lincoln before dark that night. On being told there was a good hotel at Passadumkeag, I rode into that town just at dusk and inquired for it. I was shown a new building, just finished, and was informed that it would not be ready for occupancy for several days. I inquired for the next town and discovered that Enfield was it, only six miles away. I thought I could make it if the roads were good—and they proved so to be. Only once through the six miles did I close the throttle; that will tell how smooth and straight the road was. I sent the little R-S along just as fast as I could, as I wanted to finish before dark. This road ran through the woods, away from the river, and riding through it I raised six partridges, one of them barely missing me as I went along.

I found the hotel at Enfield—the Sibley House—all that it had been recommended. It was built on the old, rambling farmhouse style—sociability and hospitality looked out of the windows. There were the town's general store, post office and the hotel office all on the first floor. On asking for food and lodging for man and beast, I was at once shown where to put the machine and invited in to a hearty supper. These Maine suppers, by the way, are not what you city chaps conceive a supper to be. This particular night we started with fried partridge breasts, roast venison and pork. They insisted on my eating all three kinds of meat, feeling that I ought to be quite famished even if I wasn't. I had to eat to please them, and after the meal we all adjourned to the office and had a very pleasant talk about motorcycles. The proprietor had several younger brothers and sons who had always ridden bicycles, and who, for a long time, had been thinking of buying motorcycles. I gave them catalogues of the machine I was riding, and one of them said, right off the reel, that that looked good enough for him, and that his share in the season's potato crop would buy him three or four if he wanted them.

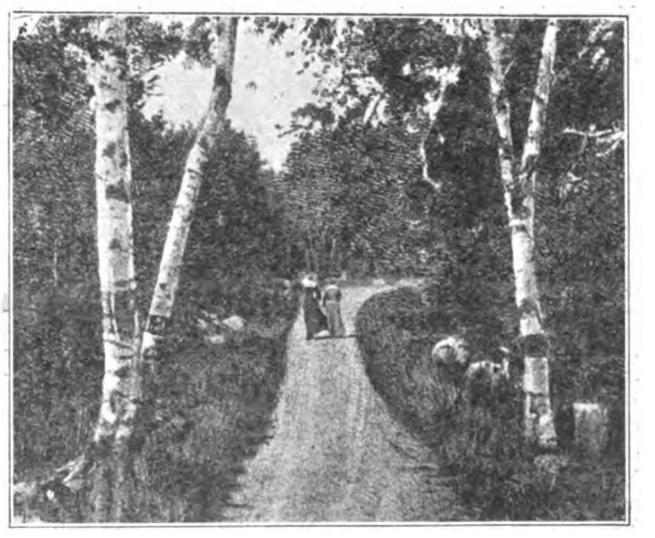
After a night in one of the old fashioned feather beds up under the rafters of the roof, I had a hearty breakfast on the same lines as the supper the night before, and, being billed one dollar for supper, lodging and breakfast, I started for Patten, about eighty miles. I was told that I would find the same good roads, and possibly better than I saw the day before. To me this seemed an impossibility, for I had made up my mind that I had ridden over the best country roads that could be found anywhere.

Those Maine roads are not rutty, and have no horse paths in the center. You can ride the most of them on either side, or in the center, or you can let your wheel criss-cross back and forth as it suits your fancy. They are natural dirt roads, made of clay and loam. They are practically level, and all the farmers drive double teams over them with farm wagons heavily laden. The wheel rims of these wagons are about three inches wide, and serve to continually roll the surface to almost perfection. After leaving the Sibley House I rode five miles right on the peak of what they call there a "horseback." It is a ridge on which the road follows the very narrowest part, right on the top. When it began to descend into the valley it was a long slope of possibly a mile and a half. After reaching the valley I got off the machine and looked back. It was a beautiful sight. Here, too, I got a glimpse of the Penobscot; but now it looked like a ribbon compared with what it was when I first saw it.

I soon came to the pretty village of Lincoln, which has as beautiful streets as you will find in any of our modern New England towns. Passing on through Lincoln the next stop was Mattawamkeag. There I inquired the way of a friendly farmer to Patten. He informed me that I had one of the most difficult hills in the state to climb if



MILLINOCKET, ME.—MT. KATAHDIN.



COUNTRY ROAD NEAR CAMDEN, ME.

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I was bound for Patten, and said that scores of autos had got stuck on it in times gone by. I told him I should try to go up without pushing, and as I crossed the bridge after leaving the town I saw Mr. Farmer standing next the fence and in view of the hill, which I could now see some half a mile distant. It was certainly a tremendous climb; but owing to the long start I was able to make it without the help of the pedals.

I now had some forty miles of continuous woods, with farm houses as many as five miles apart, and was told it was a pretty wild country. In a little while I was convinced of this fact, for, on looking up suddenly, I saw a large wildcat just ahead of me. I looked at him for a minute, and as he did not apparently hear the machine I opened the muffler. He turned his head and saw me. He did not look for long, but gave one tremendous leap, cleared the bushes at the side of the road, and as I got off the machine, thinking he might be watching me, I could hear his footfalls crashing through the bushes growing fainter and fainter. I think he must be talking about it yet. A little way further on I actually passed four deer, two on each side of the road. They did not seem to be very much afraid, but moved off slowly into the woods as I came along. A few miles further I saw two more.

About one o'clock I reached the town of Patten, where I was to stop for the night. There was the usual crowd and the usual curiosity about the machine. Here I stayed with my cousin, Dr. E. J. Farnham, who is the town physician, keeps the only drug store and has the agency for the Indian. My machine was the first 1908 model that had been seen, and of course I was held up until the doctor and his clerk had an opportunity to try it; and right here let me tell you that down in Patten there are some hills to try the qualities of any machine.

The next morning dawned fair, same as before, and I started at 9 o'clock for Houlton, taking in en route the towns of Island Falls and Smyrna Mills, in both of which I expected to remain only a very short time. I found many who wished to examine my motor in each of these places, and at Smyrna Mills, where I took dinner, on coming out of the hotel I found about twenty-five collected around the machine; in fact I could hardly see it. I intended starting at once, but had to wait and answer all kinds of questions. Then, to amuse the natives, I rode up a hill, which they called a mile long, just to show them I was able to climb anything they could build a highway on. They were much surprised, and I rode away, leaving them, I think, lost in wonder.

The scenery all the way from Patten to Houlton is sublime. You can look back almost any time and see old Mount Katahden in the distance, with several other peaks and numerous smaller mountains all around. There were the usual amount of hills to climb, but over beautiful, smooth roads all the way. I arrived at the city of Houlton at about 2 o'clock in the afternoon and was accorded a great reception there at the Snell House. The proprietor is very fond of automobiling, and he gave me a very fine welcome. He wondered at my riding a motorcycle up the country from Rockland, and asked me to take the machine into the office and let it stand in state there.

The next day was also pleasant, and friends I had met told me I should ride over to New Brunswick, as the Canadian line was only two miles further on. Another reason why I was desirous of going is that an automobile party, stopping up at the Snell House the night before, told me of a famous hill that they were unable to climb, and I kept wondering whether I could do it with a motorcycle. On reaching the hill, I went to the top without any trouble whatever, and then came back to the Line House. This Line House is one of the curiosities. It is a small inn, one-half situated in Canada and the other in the state of Maine. On the Canadian side of the bar room you can drink yourself sick, with no one to hinder. At the other end of the room billiards and dominoes furnish the chief diversions. There are all manner of gambling devices in operation, none of which are nailed down, as the occasional raids of constables and sheriffs make it advisable to move the apparatus back and forth, from one country into the other.

Returning to the hotel, I started over the Great North Road for Presque Isle and Caribou. I was told that I would find the prettiest stretch of road for forty miles that I had yet seen. I was ready now to believe anything, as I had found previous descriptions of roads truthful. The going was certainly superb. It was one of the prettiest September afternoons one could desire. I had three towns to stop at on business. Starting after me was an automobile party of five, and we agreed to meet at a hotel at Presque Isle that night, which we both reached at about 5 o'clock. This Great North Road extends for forty-two miles from Houlton to Presque Isle. Twenty miles of this distance is as straight as a line drawn on a map with a ruler. The road is simply magnificent, and there is no limit to the speed that can be attained on it, except, of course, what the motor will do.

Leaving Presque Isle the next morning for Caribou and Fort Fairfield, I thought of returning to Presque Isle for the night. Concluding business sooner than I expected at each of these towns, however, I got back to Presque Isle again at one o'clock, and as the weather looked hazy I made up my mind to try for Patten that night—some ninety miles away, desiring to stop over Sunday with my cousin. The people at the hotel asked me where I was bound for as I started away, and on telling them Patten, they shook their heads saying: "You never can do it. Impossible!" But as the machine was running fine, having ridden over the road once, I thought I could do it. At just ten minutes past seven I rode into Patten. Here I stayed until the following Tuesday morning, making one trip from here with my cousin seventeen miles into the woods, over what is called a Tote road, in the dead of night.

Tuesday morning dawned bright and fair, and I started again south, calling that day at Milo, Dover and Foxcroft, and stopped for the night at Guilford. This was one of the hardest day's runs that I had yet made. Here, as usual, is a hotel that will compare with the finest in any of our large cities for service, and they make the motorcyclist welcome. It makes no difference if he is not neat and clean, or how many times he has been thrown off his machine. He sits down and eats with the other guests. Leaving here the next morning I started for Bangor. I again took in Dover, Foxcroft, Charleston, East Corinth and Kenduskeag.

Back again to the old hostelry, the Penobscot Exchange, where I was greeted as one lost and found again. The next day I concluded business in Bangor, and Friday morning started for Skowhegan. This is the motorcycle town of the state of Maine, there being sixty machines owned there, more than all the rest of the whole state combined. I took in the towns of Newport and Pittsfield on my way over and found beautiful roads for the most part, though it was a little rough on some hills. I got a warm welcome in this town; it seemed like meeting old friends to see other motorcyclists. Saturday morning at ten o'clock I started again for Waterville, twenty miles away. I took in Fairfield, where I stopped for dinner, and arrived at Waterville about 2 p. m. Here I stopped over Sunday at the Elmwood House, which will compare with the finest; and any one traveling this way will surely enjoy the fine rooms and excellent table. They made it very pleasant for me over Sunday, and I enjoyed very much some of the splendid roads that abound in that vicinity. Monday morning I left for Augusta, expecting to meet with poorer roads, but was happily disappointed. They have the same beautiful surface all the way with only one exception—where they were building a piece of

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state road. At Augusta I stopped at the Hotel North, and for the next five days I was busy in the three cities, Augusta, Hallowell and Gardner, which are closely connected, and enjoyed several side trips, one to Winthrop, a very pretty town, some ten miles away, another to Togus, and also to several other places.

Let no one brag of his machine, if he rides a motorcycle, until he has ridden around the streets of Augusta, because on every avenue out of the city you have got to climb the steepest grades that they can build a highway over. In fact, on one of them the electric car line formerly used a cog attachment, but have discarded it now. You should see the people standing on the street as I started away from the hotel each time. They would follow me, knowing I would have to climb one or the other of those hills, and it amused me to see by the expression of their faces that they doubted the ability of the machine to make good. But I fooled them every time and never had to help the machine with the pedals once.

The following Saturday morning, having felt a little twinge of homesickness, I made up my mind I would make the run to Portland, taking in the cities of Lewiston and Auburn and a few other minor towns between, and get into Portland in time to take the boat for Boston, leaving the machine in Portland, to come back and finish the trip the following Monday. On leaving Augusta I found the first poor roads in Maine. I had been directed to take a shorter route, and like many other shorter routes found it impossible to ride, and did my first walking over this stretch to Lewiston, which city I reached at about noon, as I did business in one or two places on the way.

Taking dinner at the De Witt House in Lewiston, I started for Portland, some forty miles away. Going from Lewiston to Auburn, down the hill to the Androscoggin River, I met with the first accident of the long trip—skidding on a wet track. I had seen so few car tracks that I had forgotten to be careful, and took a long chance and lost. I wrenched my foot quite badly, broke one pedal and bent the handlebars and controls. Luckily a blacksmith's shop was nearby, and with a borrowed wrench I straightened the bars and controls, put in a new pedal shaft, and, although my foot was paining me I started again and reached Portland that afternoon at 4.30. After getting the wheel there, and registering at the Preble House, I found I could barely walk on my foot. Finding there was a train for Boston leaving very quickly, I put the machine in a local garage, took the car for the depot and then was off for Boston.

In a week's time, my foot being better, I came back. After spending several days in Portland, starting early in the morning, I took my time and came through to Boston, out to Medford—my home—arriving there at five o'clock. This ended the long trip.

Now, as to the reliability of the motorcycle, let me say that this machine was ridden thousands of miles before starting on this long trip through Maine, over the worst roads in New Hampshire and Massachusetts, and there were no repairs made on it at all. Nothing gave out, and, in fact, I was miles away at all times from any repair shop, and all the spare parts I carried were two pedal shafts. I used one, and, with the exception of grinding valves, the little machine is apparently ready for another trip just as long, which I hope to be able to take another season.

A CHICAGO ENTHUSIAST

ARTHUR G. LYON.

ARTHUR G. LYON is one of the most enthusiastic of the great number of riders in Chicago. He has taken a prominent part in all local club and competitive affairs, and was one of the New York-Chicago brigade in the "Big Tour" last summer between the two cities. His first appearance in public competition was in this year's F. A. M. Annual Endurance Run, held in connection with the F. A. M. meet at New York. In this his nerve was tested to a degree that would have eliminated the average rider. A few days before the run, Lyon started to ride from Albany to New York, taking in the Catskill course. A short distance out of Catskill, while traveling close to forty miles an hour, he struck a stone and was thrown some distance, badly lacerating his face and getting a general bruising and shaking up. He was unable to proceed to New York, and laid up at Catskill till the start of the run. He then made his first trip over the Catskill Mountain route, finishing the day's grind in good order, but with a penalty of seven points, brought about mostly through his lack of knowledge of the roads. The next day's run at Long Island was made without delay or penalty.

Starting from New York on July 6, he was one of the perfect score men of the Excelsior Team, and, while still wearing the scars of his accident near Catskill, arrived at Chicago in a better physical condition than nearly any of the other contestants. At the Algonquin Hill Climb, August 14, he had the honor of winning the event for fully equipped roadsters, making the long grade fully four seconds better than his nearest competitor. In the Chicago Motorcycle Club's Reliability Run from Chicago to Kokomo and return, Lyon was a member of the Excelsior team, all of whom finished with perfect scores. Lyon is a quiet chap and has very little to say; but on the road, where nerve and stick-to-itiveness are demanded, he is there with the goods every time.

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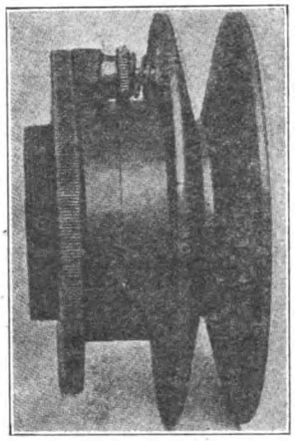
ENGLISH NOTES

By B. H. DAVIES

A Cute Variable Pulley Combination.

THE latest English combination in the way of a variable pulley is designed to avoid the necessity of pulling the belt off the pulleys when a terrifying pimple blocks up the horizon, and this end is attained by the combination of a special pulley and a special fastener. The pulley consists of three parts.



ADVANCE VARIABLE PULLEY.

1. The fixed flange, which is part and parcel of a barrel fitting on the engine shaft, this barrel possessing a long projecting key, and being screwthreaded at its outer end.

2. The loose flange, slipping over the barrel, having a keyway cut in it, and being fitted with a spring dowel, and a finger trigger controlling the spring dowel.

3. A right-hand threaded locking ring, screwing on to the threaded end of the barrel, and drilled in its circumference with eight holes, in any one of which the spring dowel snips to lock the whole up solid, on any gear ratio.

Its operation is as follows: on desiring to lower the gear, the trigger is lifted, which pulls the spring dowel out of its hole in the locking ring. The locking ring is then screwed out along the barrel, the loose flange pulled out away from the crankcase, and the trigger pushed down so that the dowel snicks into one of the holes in the locking ring. The reverse procedure raises the gear. The length of the belt is then altered to suit the new gear ratio. The fastener consists of two ordinary end plates bolted to the ends of the belt. These two plates carry two pins, connected by a triangular link, the three sides of which measure respectively ¾ in, 1¼ inch, and 1¾ inch. The ends of the bolt are pulled together with one hand, and the desired side of the triangular link is then snicked into the horizontal position, to serve as the joiner. The whole job can thus be performed, without detaching the belt, by simply letting down the stand, or allowing the jigger to lie over onto its foot rest.

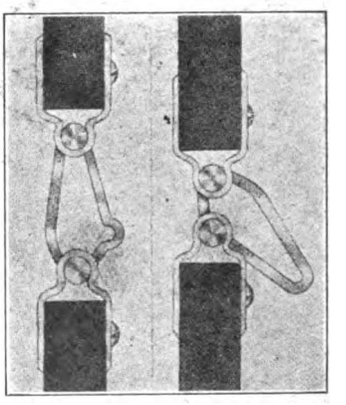
Pocket Tool Kits.

The average motorcyclist carries his big wrenches and his stock of replacements in the tool bag at the tail of his saddle, and spoils the hang of his clothes by choking up his pockets with such items as screwdrivers, contact files, sparking plugs, belt punches, etc. English toolmakers have now come to our rescue with a series of compact little pocket wallets, containing half a dozen of the smaller tools which are in constant requisition. A sample before me is a good quality leather wallet, about the size of a letter case that is well wadded out with notes. When I unhitch its spring button, I discover a knife, a V shaped belt punch with screw borer, a contact file, a four-inch King Dick spanner, a stumpy little screw driver, and a miniature pair of pliers. This slips in the breast pocket, and I never need disturb my main kit unless something serious has happened. Consequently, I am able to keep my tool bag neatly packed, and to wear a padlock on it as a security against garage and hotel thieves. American riders ought to ask their trade for something of the same sort—perhaps they have it; but I never see them advertised in your press.

Hastings' Suspension.

We English riders are a little sick that your F. A. M. has suspended T. K. Hastings for participating in our big endurance run along with paid drivers. It's the regular thing here, and to show that it carries no slur, I may add that alongside Hastings there were competing two prominent medicos, a brace of parsons, and a baronet who commands one of our biggest warships. The fact is, we have tried to purify sport over here, especially in the cycling world, and finally decided it's all very well to disqualify the paid rider, but it's a case of first catch your hare, then cook him. We used to keep amateurs and pros apart, and the immediate result was a big crop of "shamateurs," as we call them. Some of them took hard cash for riding, some got machines free gratis, some were content with minor supplies, such as tires, entry fees, and so on. If we employed a special corps of detectives, we should not catch half of them. Human nature being what it is, in all sports we shall always have the sportsman who prefers to pose as a gentleman, but does not want his hobbies to cost him a cent that he can dodge. Why, even in swagger society you always find your blueblooded and even titled aristocracy running automobiles on the secret agency dodge, and wearing free Paris gowns because they have a smart figure.

Again, in our trade, we have some jolly decent fellows who make their own machines and get their expenses paid by the firms they work for, and we like running up against these chaps in endurance runs. They are good engineers and sportsmen. So, as we can never hope to draw a sharp line of demarcation between the two species, we run two classes—a professional class and an amateur class—in nearly all our big events, with separate awards for each class. T. K. Hastings rode in our amateur class, and we treat him as an amateur. There is probably not a single motorcyclist in England who has ever taken part in a motorcycling trial, who would not be disqualified under F. A. M. rules as an amateur rider; and yet we have motorcyclists at the top of the tree here in every walk of life—medicine, the stage, the law, the Church, the army, the navy, and so forth. We all hope to see T. K. H. over here again next summer with a 1909 Indian.



ADVANCE ADJUSTABLE BELT HOOK.

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A CLOSE CALL

By W. CARL NUGENT

MY friends called me "Motor Fiend," and I suppose I deserved the title. I knew the price, weight, durability, and even the sound of every motorcycle on the market. Only a few years before, I had thought swimming the best pastime out, and I could swim like a fish. Now, although I love the water still, motorcycles are "it" with me. My friends sometimes grew tired listening to my cycling tales and they did not hesitate to tell me so. But after I had purchased my new "Indian," of which I was as proud as a young husband is of the first baby, I gave them no peace unless, and this was seldom, they, too, were interested in motors.

I was delighted with my new machine. For a week I was on it more than off. One day, however, I decided to ride to Dover, a town about 125 miles from my home. This was a longer trip than I had yet undertaken, but I thoroughly trusted my machine.

I donned my riding toggery, got my beloved motorcycle, and, with a series of "Honks," delivered more for impression than for warning, rode majestically through the town, past the outskirts and on to the long country road.

On and on we went, my motor and I, wrapt up in the beauty of the surrounding country—down a straight road for a while, then gracefully completing a turn, then up a hill, swiftly and as easily as over the level. Through a city and out again on the lonely road we went. The speedometer measured ten miles an hour. I opened the throttle till it reached fifteen.

"Bang!" went something under me, so violently as to nearly throw me from the wheel. I regained my seat and attempted to stop.

"B-z-z-z!" My motor and I shot out like a ball from a cannon's mouth. Again and again I tried to regain mastery, but with each touch to the throttle the speed increased.

"Thirty—thirty-five—forty miles an hour," the speedometer measured.

I realized I had lost all control. Faster and faster we went, seeming to devour the road under us. Corn fields, wheat fields, hay fields—all shot by so swiftly as to seem but one. Up more hills and through more towns we went; but fortunately, as I remembered, we had no more sharp curves to turn, at least until we reached Dover. Beyond that I knew nothing.

"B-z-z-z!" On we flew! My iron steed increased in speed every minute, till at last we seemed to leave earth altogether. Far ahead I saw a bridge, spanning a small stream. The next instant we devoured it at a single leap. Then through a town we sped, which, although the houses seemed blended into each other, I managed to recognize as Dover.

I made a last effort to slacken speed, but it only worked the wrong way.

"B-z-z-z!" Away we shot faster than ever out again on the country road. I glanced again at the speedometer.

"Fifty-eight—sixty—sixty-two—sixty-five," it measured.

"Whew!" I thought. "More than a mile a minute! What will be the end of this? To jump at this terrific speed would mean certain death. Will we have to go on and on till the power runs out?" My spark-plug was good for a thousand miles yet, and more.

Then suddenly I heard an engine whistle. Recklessly glancing from the road in front, I beheld a long line of cars coming swiftly over a track which crossed my path in front. But there was no way to stop my wheel! My only hope lay in a race for life with the train. Another touch to the throttle and we shot out with greater speed than ever. We passed the track in safety, but I felt the hot breath of the engine as we did so.

Finally, in the distance, I spied a stream running along beside the road. There, probably was my escape if I could only make use of it. Nearer and nearer it came till I recognized the broad Mississippi. A plunge into the water and I was safe; but that required a rather sharp turn, which I doubted if I could make without flying from my wheel to instant death. But it worked.

"Splash!" My darling steed sank like a rock and I seemed about to follow, for my limbs were numb and stiff from the long, swift ride. But I rallied and, making use of my skill as a swimmer, struck out for the shore, now over a square away.

I then sought and found a farm-house, where I was permitted to stay till the next day. From my host I learned that I was 175 miles from home. The rest of the day I spent in trying to figure out what troubled my machine. Surely the "Indian" was made better than to act that way for no reason whatever. I had oiled it thoroughly before we started, and it certainly seemed well greased before we stopped. There! I had it! That little pin—I had taken it out, laid it on the bench and forgot to replace it.

Next day I inquired my way to the nearest city, where, being fortunate enough to have my check-book with me and a friend to speak for me, I purchased another "Indian" and rode back home.

Compression, Power and Economy

IT may not be clear to all riders why the gaseous charge in the cylinders of a gasolene motor is compressed before ignition, especially since the compression absorbs power. By compressing the charge before ignition a proportionally higher explosion is obtained, and also a much higher mean pressure during the explosion stroke. Much greater power is therefore obtained from the same engine, and the thermal efficiency —i. e., the relative amount of power obtained from a certain amount of fuel—is also increased. Generally speaking, the higher compression the greater the power of an engine of given dimensions and the greater fuel economy; but there is, of course, a limit beyond which it is not advisable to go, this being fixed by the facts that when the compression is too high the charge is liable to ignite spontaneously at a too early period—a phenomenon known as pre-ignition—that the motor is hard to start, and that if the piston and valves are not a perfect fit a considerable part of the charge is likely to leak out.

Ascot Park Track to be Improved

LOS ANGELES seems determined to keep in the van so far as world's records are concerned. Plans have already been set on foot to build a new track there, one that will help the Los Angeles folks to nail down some more records. A syndicate has been formed to take over the Ascot Park property. This is the mile oval on which Freddie Huyck recently covered a mile in 53 seconds, and five miles in 4.38. The new company is composed of the former owners of the track, together with a number of prominent Los Angeles business men who were not previously interested, and they have already deposited $32,000 to bind the sale. The new track will be saucer shape, 100 feet wide and banked between 45 and 50 per cent. The surface will be of cement. When complete, the new circle ought to be a crackerjack. It is planned to inaugurate it on Washington's Birthday with a big race meet.

Of the 2,151,570 miles of public road in the United States only 7.14 per cent., or 153,662 miles, are improved

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FIVE THOUSAND MILES THROUGH EUROPE

Jack Knife, with Mrs. Jack Knife and a Friend, Tandems Through the Toy-making and Other European Countries

By WILLIAM BUSHNELL STOUT—St. Paul

WITH the enterprise of a hustling American newspaper behind me as an incentive, and in search of adventure and motor experiences to add new interest to a series of travel articles, a motorcycle trip just completed by myself, in company with my wife on the rear seat of the tandem, and an assistant, Mr. Wade of St. Paul, Minn., whom, for convenience, his friends call "Cy," was of such interest and such proof of the practicability of the motorcycle as a means of conveyance, that I want to tell the readers of MOTORCYCLE ILLUSTRATED something about it. Our experiences along the up-keep and repair line will probably be of most interest.

We were gone seven months. Three months of that time was spent on the road, touring England, France, Belgium, Holland, Germany (Oldenberg, Schleswig-Holstein, etc.), Denmark, Sweden and Norway, on all kinds of roads, from the French pave to the Norwegian twisters, and in all kinds of weather conditions. In all that time my machine was on the train but once—from Voss to Vergen—where there was not even a footpath, much less a road. I never had to push to town when there was "petrol" in my tank, and never had a repair that I couldn't handle myself on the road. In all that time I put "parrafin" (kerosene) into the cylinders but once for a cleaning, have never had the engine down yet to see if there was any carbon in it, have never broken a valve, and with two of us up, have run my Bullard speedometer up to thirty-eight miles an hour on the level in Holland, and kept it up for hours at a time at full speed without overheating. We met only two machines in Europe that had more speed, and they were of greater horsepower, one a twin.

As to hills, all that I need to say is that in Norway, traveling to the summit of the Valdres Pass (which our guide said was 14,000 feet above the sea), we met only one hill of such grade that we couldn't climb it. This was so steep that pedaling did no good, and, with engine and pedals together, we did not climb more than two hundred feet of it—and we had a long start at it, too.

At the summit of this pass our machines, which had been losing power for some time, stopped altogether. For three weary hours we tried to get "Cy's" to go. We put in a new valve and tuned up everything we could think of, and what we didn't do wasn't worth trying. No use! The engine would start off fine, run a minute, and die. Finally, in disgust, we gave it up, and, putting up the stand, tried the machine on the road. Then I found that, by continually tickling the carbureter, it went all right.

I wish you could have seen the look on our faces as the engine kept on; and as I disappeared around a curve up the hill, "Cy" was waving frantically from his resting place at the side of the road. We had forgotten the altitude. The difference in air pressure had changed our compression, and the air in the floats had bulged them out till they floated too high. Taking the carbureter down, we put a small stone on each of the twin floats, set it up again and were off, working fine. This hint may help others who intend ascending to high altitudes, so I include it here.

As to customs, there is a world of surprises at every station. Entering France, our Cyclist Touring Club tickets worked fine—they hadn't arrived yet, but we had our receipts showing membership. Entering Belgium this was of no use and we had to pay down our ninety francs a machine. It was promptly returned to us on leaving. Entering Germany we must pay forty-eight marks a machine and six or eight marks for license, number, etc. On entering Holland we paid fifteen gulder per machine (a gulder is about forty cents or twenty pence), which was returned on leaving.

Denmark, Sweden and Norway said nothing of duty, though in Denmark we had to take out a driver's number, which was free, and the number which I used was painted on a piece of pasteboard by a man who happened to be varnishing the floor in the hall of the police station at the time. The day we left Copenhagen a law went into effect limiting the speed of all motor vehicles in Denmark to one mile (Danish) an hour, and all the taxicabs went on strike. It was here in Copenhagen that I first saw a woman "taxi-driver." Though Danish roads are good we had plenty of misfortune in our twenty-mile run from Copenhagen. Between both machine we had fourteen holes cut in our tires within twelve miles, and we took practically a whole day in making the run to Elsinore.

The longest run of the trip was from Buxtehude, fifty miles west of Hamburg, to Copenhagen, Denmark, without a stop, except for a four-hour's boat trip. We were all one night on the road, and till 12.30 the next night—forty-three hours without sleep and thirty-six on the road. In search of adventure? Yes, and we also had checks waiting in Copenhagen which we were very much in need of. With this as inspiration it is no wonder we made time, and we look back to this run as the biggest adventure of the trip.

As to roads! We were in the north of France and were unlucky enough to strike a route of much pave (or round cobblestone, poorly laid) and a back-breaker. In Belgium it was about the same. In Holland we made many crossings by fisherboat from island to island, and hence saw country an automobile couldn't tour. Here there were no railroads to accommodate tourists, and the roads were mostly of brick laid along the tops of the dykes and alongside canals, level and straight as an arrow, but "choppy" in spots where the bricks had worn or settled. Here our excellent spring forks were a godsend.

In Sweden we followed the west coast and found most abominable roads, with great outcroppings of stone almost everywhere, and sometimes a mere trail or ridge between two ditches. It seems to be the object of road builders in Sweden to make their roads go nowhere in particular, but to connect all the farmhouses. They wind back and forth and in and out, till a mile on the map means from three to five by road.

In Norway the roads were wonderful, evenly graded for the most part, and smooth. They were very narrow, however, and curved in and out, always following the windings of some stream, with some turns so short that a long automobile would have to stop and back to get around. Since the horses are so "scary" motorcars are not allowed on the roads in the greater part of Norway, except at night. Again "petrol" was scarce and we bought it in the villages where there was a drug store or chemist's shop, called "apoteket." Here we paid as much as eighty cents a gallon for it in bottles. They used it for cleaning.

One thing about Norway I must mention, and that is how the horses behaved. We would be riding peacefully along, when from the surrounding fields a bunch of horses would come running, scared by the motor exhaust, and get onto the road in front of us. What could we do? To

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stop meant that they would also stop and stand. To get by them was impossible, for they threw rocks and dirt in profusion as they ran, and "Cy," trying it once, was nearly knocked from his motor by a stone from the horses' heels which struck him in the head. All we could do was to run slowly, driving them before us, until we met someone who could stop them and drive them past us as we stood still. We chased in this way anywhere from one to a dozen horses at a time, but there was no help for it.

The total casualties of the trip consisted of one chicken, deceased. Many dogs felt the weight of our boots as they came out and snapped at us, but we didn't run over any. We did run over a jack rabbit on the road one night. Altogether our trip was a success, and we were both surprised and pleased with our motorcycles. These were of American manufacture, made in Reading, Pa., by the Reading Standard Company, and the way they stood up and carried us over the ground was really wonderful.

ONE MAN'S IDEA; THE MODEL OF THE FUTURE

AS an enthusiastic rider (as you know), and one who looks forward with great interest to the forthcoming models for the new year, I am unable to restrain myself, and therefore must break loose and unload an idea or two upon you. From the various contributions that have appeared from time to time in MOTORCYCLE ILLUSTRATED I am led to suspect that the average rider's mind secretly and fondly turns to that design upon which he can exercise, to an unlimited degree, his favorite hobbies.

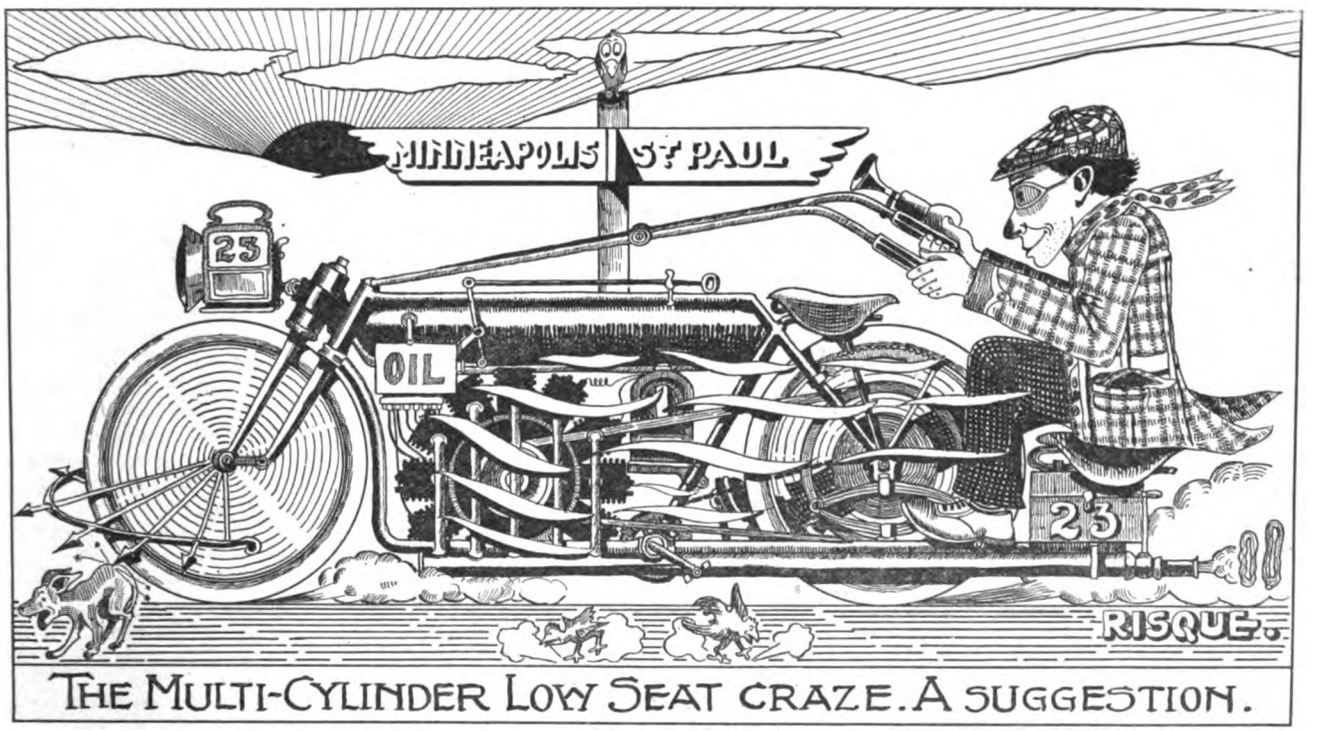
In the sketch I have tried to illustrate, in a way, what I believe some of us would like. Briefly (referring to the sketch) we note in the compactly arranged cluster of cylinders—nine in number (any multiple of nine will do) an assurance of abundant power, with a special arrangement for cutting out eight (or less) disabled ones. A plentiful supply of oil is guaranteed by a handy pump, the lever of which is within easy reach.

The terminal of an unrestricted exhaust pipe provides for a cut-out and a flexible coupling which can be easily turned on any dog. This, in addition to the prolonged "Dog-catcher" at the forward end would certainly help somewhat to the end the dog trouble. Extension handle bars (attached at the knuckle shown—easily removed in an instant) give the necessary long reach whereby we can indulge our favorite hobby, *low saddle position*—in fact, get as low down and as far back as we can safely operate.

By folding these bars, the rider can instantly change his position (crowded streets), and crawl up to the high seat forward. This I believe will be a welcome innovation to those who tire of the same position, mile after mile. Furthermore, equipped with a free engine and two speed clutch (that cherished dream which seems never to be realized) he finds himself fully prepared for any emergency—in fact what will he care if only one cylinder is working on a grade? Hoping that you do not consider my ideas too far in advance of the times and wishing you continued success,

Yours for the Interest of the Game,

JOHN P. RISQUE.



THE MULTI-CYLINDER LOW SEAT CRAZE. A SUGGESTION.

WHEN you see your tire going down, or when you feel the rim hit the first time, don't keep on going, for if it is a nail the chances are 100 to 1 that it will puncture both sides of the tube. It is easier to fix one puncture than two, so don't.

DON'T ever, ever try to go up a 30 per cent grade with a 1¾ engine, and regular equipment without pedaling to help it, for you can't.

IF You want to sell your machine advertise it in the MOTORCYCLE MART, Two Cents a Word.

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CLUB NEWS

OFFICERS for the coming year were elected at the meeting of the Chicago Motorcycle Club on Monday, December 16. Like some others, this club has shown a strong inclination to sleep long and soundly between occasional events of one kind or another, and it has not taken hold of Chicago affairs as its well wishers had hoped it would. But all this is to be changed in the future. In an effort to shake off the lethargy that has overpowered it, and recover from the "sleeping sickness," a practically new staff of officers was elected—only three holdovers are on the new board.

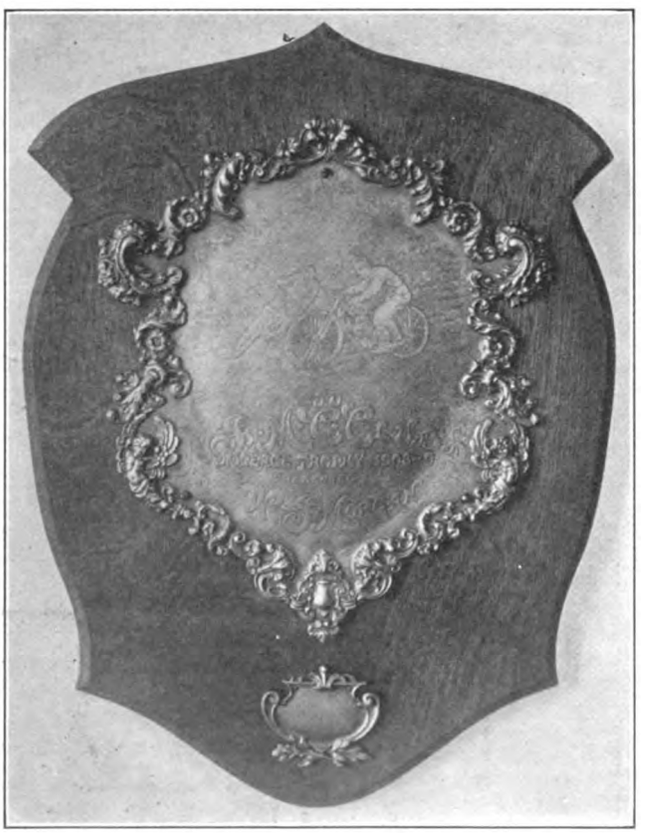
The officers are: President, C. H. Lang; Vice-President, J. S. Woodworth; Recording Secretary, J. O. Kobzina; Financial Secretary, Henry T. Adams. F. B. Hart succeeeded Mr. Lang in the office of Treasurer, and A. Johnson was elected Sergeant-at-Arms. The Board of Directors will consist of the President, Vice-President, Treasurer and Messrs. A. G. Lyon and R. R. Olsen. Road officers are: Captain, Joseph R. De Salvo; First Lieutenant, J. E. Starr, and Second Lieutenant, E. R. Hendrickson. The new Racing Board of the club consists of C. H. Lang, F. B. Hart, J. S. Woodworth, E. L. Hess and J. T. Fisher.

The Racing Board, made up as it is of the leading trade representatives in Chicago, will have its every action carefully scrutinized. The idea of selecting trade men to conduct the competitive club events is original with the Chicago Club. In stating its position in the matter the club says:

"It has been assumed by this organization that motorcycle contests have, up to this time, been necessarily supported by the trade, and this condition will probably continue, as the expense incident to participating therein is far in excess of the value of the prizes heretofore offered or apparently obtainable for such events. To avoid any claim of prejudice in favor of, or against, any particular manufacturer, it was decided to make up the Racing Board of representatives of leading manufacturers, or those who are most liable to participate in these events. These gentlemen are of such standing in the business that fair treatment of everybody is assured, which might not be the case were the board made up of independent riders whose loyalty to their particular mounts might lead them to ill advised action."

AMONG the eastern clubs several have grown during the past year to large proportions. The New Jersey Motorcycle Club is an instance of what can be accomplished. Organized in Newark last spring, this club is now one of the strongest and most progressive in the East. Its membership numbers close to the hundred mark, and as its riders are recruited from a large territory, the roll will grow steadily in length this year. It is now planned to secure a club house at a convenient location in Newark to provide a permanent home for the club.

The first meetings of the organization were held in the old house of the New Jersey Automobile and Motor Club, and in return the motorcyclists undertook a campaign in behalf of the automobilist that turned out most successfully, though it created a lot of discussion and caused many threats to be made against the motorcycle riders at the time. Their plan was to scurry around and locate the speed traps that rural constables established at many likely points, and then warn the motor car drivers of their danger. These traps were worked mostly on Sundays and on holidays, and it was great fun for the riders as long as it lasted. Their work was very efficient, so much so, in fact, that the justices and their henchmen, the constables, got but little "graft" while the N. J. M. C. members were on the job.



THE "SEN" MORGAN MILEAGE TROPHY.

W. J. ("Sen.") Morgan, who is President of the club, recently put up a mileage trophy, to be awarded to the rider with the greatest authentic number of miles made between May 30, 1908, and May 30, 1909. The trophy is a shield, of bronze, especially made, and mounted on a large panel of old oak. It is very handsome and will no doubt stimulate the club riders to go after big mileage between now and Decoration Day.

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BALTIMORE'S two clubs are very much alive and continue to hold weekly runs, meetings, etc. On Sunday, December 5, Captain W. S. Fisher led the Baltimore M. C. members on a cross country run to Westminster, by way of Manchester, the round trip almost making a "century." The following Sunday they rode to Green Spring, but the weather was wintry and kept all but the most enthusiastic at home. This club has just enrolled a new member, "Mr. Ama Humbugger." He is an enthusiast—gets up at six o'clock every morning and takes a ride as an appetizer for breakfast.

The R-S M. C. was entertained on Sunday, December 13, by George W. Rogers, at Arundel Cove, where he gave an impromptu oyster roast, with an abundance of refreshments. Music was furnished by the Willard Mandolin Club. In the workshop Mr. Rogers exhibited a working model of his aeroplane, in the shape of a flying fish—a novel idea, which has been kept a dark secret up to this time. The motor experts of the club were struck by its strength and stability. Mr. Rogers will shortly make a trial flight. The return trip was enlivened by the misfortune of Lieutenant "Happy Heinie" Heisterman, who had innumerable disasters, and who discovered that someone had put kerosene in his gasoline tank. Unable to procure gasoline, he bought a pint of wood alcohol and with the mixture and some adjustment proceeded on his way.

ONE of the many progressive organizations started in the State of Ohio this year is the Akron Motorcycle Club, which was formed May 20, for the sole purpose of establishing and maintaining friendly relations between the motorcycle riders of the city. The officers elected at the organization meeting were: President, A. L. Bertle; secretary-treasurer, B. R. Maxson. Throughout the summer the club held meetings once each week, and every Sunday the members turned out for runs through nearby cities and portions of the state. On every run the color-bearer carried the red and gold emblem of the club. During the winter months club meetings will be held once a month, on the second Tuesday.

The Akron boys have participated in several races and endurance runs during the past season. When the Cleveland Club held races in that city two riders were sent from Akron, and they captured second and third places. Later in the summer the club held a two days' endurance run to Erie, Pa., and return for a fine cup that was presented by a popular automobile man in Akron, F. W. Work. This was won by B. R. Maxson. At present there are enrolled just thirty members, and the club expects to increase this from thirty to forty more by the beginning of the riding season next year. Most of the Akron club members have joined the F. A. M., and the others will probably follow the good example set them.

SYRACUSE, N. Y., has dropped into line. The club spirit has been steadily increasing there with the growing number of riders this year, and on Monday evening, December 7, the prime movers assembled at the Jefferson Hotel at an organization meeting. There were fifty local enthusiasts present (about a third of the total riders in the city) and from the get-up-and-go evidenced in the meeting the new club will be a factor in motorcycling circles in that vicinity. Henry Voight lent his good services to the movement, and aided materially in directing the proper steps in the preliminary work. Officers were selected *pro tem.* and at the next meeting, scheduled for January 4, permanent heads will be elected, a constitution and by-laws will be adopted, and the organization perfected in every detail.

WHILE the Paris Automobile Salon was, in the way of decorations, lighting effects, exhibits, etc., all that it always has been, the motorcycle end of the show was disappointing, to say the least. French makers have been sadly negligent in developing the motorcycle in that country, though the machines that were exhibited, some by new concerns in the field, seem to be following a fixed trend of design that may ultimately produce a distinctly French type of lightweight machine. The show was almost all "lightweight"—that is, machines of 2-h. or under, weighing under 100 pounds. There were exhibited a few heavier machines—F. N., Peugeot, Triumph and others.

In many respects, French makers have not kept up with modern practices. Complete handlebar control was fitted to but a very few of the machines shown. Battery ignition is used on many, but magnetos can be fitted when so specified by the purchaser. Stands and luggage carriers are apparently unknown, and the saddles fitted are more suited to racing machines than for touring models. Passenger carrying motorcycles were scarce—there were two tricars and one tandem shown. Flat belts and chains are used for power transmission on many machines, and on some of the lightweights a round twisted leather belt is fitted. The show was very unproductive of original ideas or ingenious fittings, and but little instruction could be gleaned by the visitor to the Grand Palais.

ALL arrangements have been perfected for the holding of the twenty-second annual New Year's Eve run of the Associated Cycling Clubs of the City of New York, which, according to the time honored custom, will start at 12.01 a. m., January 1, 1909, from Sixtieth street and Broadway for Yonkers and Tarrytown. The historic magnum of champagne is still the honor prize for the first to arrive at either destination. Silver cups, trophies, medals and a large list of valuable and useful prizes have been collected for the various position prizes. The rules are changed this year so that any amateur cyclist or motorcyclist is eligible for all prizes.

THE Royal folks will offer a brand new single this year. On a recent trip to the factory at Worcester, a MOTORCYCLE ILLUSTRATED man had the pleasure of looking it over. It is an entirely different machine from any the Royal has ever put out. Recently it was tried up Worcester's steepest hill and it beat everything in sight. The new model contains many radical departures, there being several novel features in the motor. At the present moment they are not ready to have it fully described, but, when ready, MOTORCYCLE ILLUSTRATED will publish the facts about it.

MOTORCYCLE SHOWS, 1909

NEW YORK—Madison Square Garden, January 16-23. Merle L. Downs, manager, 7 East Forty-second street, New York City.

CHICAGO—Coliseum Annex, February 6-13. Samuel A. Miles, manager, 7 East Forty-second street, New York City.

BOSTON—Mechanics' Building, March 6-13. Chester I. Campbell, manager, 5 Park square, Boston, Mass.

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QUESTIONS & ANSWERS

A Sluggish Engine

AS a subscriber to your valuable paper, would like to ask a few questions in regard to an engine that I have recently built and intend to use for racing. In the first place, my motor is a sister to the Harley-Davidson, with only one cylinder, the bore 3¼ with 3¼ stroke. My intake and exhaust valves are one and one-half inches in diameter, and compression chamber contain six and one-half cubic inch. On the stand, the machine will run 3,700 r. p. m.; but when I try it on the road it does not have that "go ahead stuff" that I am looking for. My compression is very good, in fact, 80 lbs. on a gauge. Now, what I would like to find out is, where my power gets away from me. What should be the time of the exhaust valve? What, in your estimation, should be the gear on such a machine? I am using 4 to 1. I have looked very closely to the length of exhaust stem, and have 1-64 inch between it and the push rod when the motor is hot. As you doubtless know, 3,700 r. p. m. is a good rate of speed for such a large motor; but it does not overheat in the least. What is bothering me is to find out "what is the who" with my power. Thanking you in advance for any information that you can give, I remain,

Detroit, Mich. R. M. HUNTER.

You must not expect your engine to turn over as fast on the road as it does on the stand. Four to one is not too high to gear such a motor. Your valve and ignition timing are evidently good. It is possible the fly-wheels are too heavy, making the motor sluggish under load. Turning five or six pounds off the fly-wheels has been known to make a great difference in the speed of a motor. Since you built the engine yourself, you have not the experience motorcycle manufacturers have gained on this point, and it seems probable the above offers the solution of your trouble. You do not state the speed your machine can attain, its weight, or your own weight. Perhaps you are getting all out of your motor that can be expected.

Would Build a Gyroscope

WHAT does the Louis Brennan gyroscope look like? How is it placed on a car; does it hang from the top or rest on the bottom beams of car? Can it be run with gasoline? Would it be possible for MOTORCYCLE ILLUSTRATED to have a tracing of the gyroscope in one of the winter issues? I am greatly interested in the subject and would like to adapt its principle to the motorcycle.

Yours truly, THOS. WARNER.

Walla Walla, Wash.

You have very evidently confused two different subjects—the so-called "Gyroscope Car," an automobile built with the fly-wheel of the motor operating in a horizontal plane, and the Brennan two-wheeled railway car that is held in an upright position by the gyroscopic action of two heavy wheels, traveling on a vertical axis in opposite directions. The best illustration of the gyroscope is the top—the one that will "walk" a thread or balance on the edge of a glass. These can be purchased in almost any toy store. The gyroscope car is fitted with an ordinary two-cylinder opposed gasoline engine; but instead of a fly-wheel in the usual position it is carried horizontally on end-thrust bearings. The motor itself is mounted, as usual, on the chassis under the bonnet of the car. Capt. Brennan's car was fully described and illustrated in the technical press at the time it was demonstrated in England. The publishers of the *Scientific American* can probably furnish a copy containing this description.

Can't Go Slow Enough

BEING a subscriber to your paper, I take the liberty of asking a favor, in the form of expert advice. I ride a 3½ h. Harley-Davidson, and find I cannot get engine to run slow enough. Kindly advise me how to adjust carbureter, or any other part, so as to get the slowest riding possible from that type of engine. Also, how can I lower level of fuel in carbureter? Thanking you in advance, I remain,

Respectfully yours, GEORGE GRIESBAUM.

Chicago, Ill.

It is your ignition that needs attention. One of the features of the Harley-Davidson is the fact that it can be run slowly. With throttle closed and spark retarded your machine should slow down to at least eight miles an hour. If it doesn't, look to the ignition system.

Ignition Is At Fault

YOU will greatly favor me by answering a few questions. I would ask you: 1st, does an engine dangerously overheat by retarding spark, or does this have other bad effects. 2d, does an engine run slower by adjusting inlet valve so as to admit less gas. I can't throttle my engine down to go less than about eighteen or twenty miles an hour. Yours truly,

Chicago, Ill. E. SCHIRMER.

Retarding the spark can have no ill effect—unless the throttle is left wide open. Don't try to adjust your inlet valve. Your trouble is probably in the ignition; if the engine throttles down to eighteen miles with the spark advanced, retarding it should slow the machine down to eight miles. Try altering the timing of the ignition before you do anything else.

Write the Makers

IN "Magneto Wrinkles," by the Doctor, you state magneto manufacturers issue directions for taking down, caring for, etc., their magnetos. I have a Bosch, and am desirous of learning something about it. Would be greatly pleased if you will give me address where information may be obtained. WM. A. BOEGEMAN.

Los Angeles, Cal.

The Bosch Magneto Company, 160 W. 56th Street, New York City, will send you instruction book on request, and will answer any further inquiries you may wish to make.

Details Not Available

IS it possible to get more detailed plans or account than those appearing in your magazine of September 15, of the gasoline engine invented by Peugeot Freres and Jules Gobiet? If so let me know how to obtain same and oblige,

Ithaca, N. Y. JOHN B. SMITH, JR.

The description given was from the English patent records, and to our knowledge no motors have been built—certainly none have been marketed. When they are, MOTORCYCLE ILLUSTRATED will give the details.

Motorcycle Mart IT SELLS THE STUFF TWO CENTS A WORD

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MOTORCYCLE ILLUSTRATED

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F. P. PRIAL

LEROY COOK - - - - - - - *Editor*
L. H. CORNISH - - - - - *Advertising*

Boston Show Booming

ALTHOUGH the Boston Automobile and Motorcycle Show is still some distance off, March 6 to 13, 1909, a number of firms have already booked space. In fact, the list shows up about the same as the Madison Square Garden and the Chicago shows, for it contains the names of most of the leading concerns. The Boston shows have always been very successful, not only from the standpoint of the spectator, but on account of the actual business done. As all merchants know, the buying capacity of New England folks is big, especially when it comes to automobiles, boats, motorcycles, etc. For, as a class, they believe thoroughly in recreation, close down sharp at noon Saturdays, and keep out of doors as much as possible. It is, in brief, a great country for all sorts of sports.

Boston itself is a great city. Twenty years ago it was headquarters for bicycles, and Columbus avenue had a row of bicycle stores half a mile long. Judging from present signs the Hub seems in a very likely way to duplicate the same record in the motorcycle field. The city, too, is really the heart of New England. When anything big is going on there it is sure to draw from hundreds of cities and towns, and from a rather big radius, too. The Mechanics Building is a great deal larger than even Madison Square Garden, so that everyone has ample space. In fact, it is tremendously big and one can easily be lost in it. The manager of this show is Chester I. Campbell, who has been so successful in work of this sort that he was engaged last year by the Boat Trade Association to manage their shows for them. He is broad and generous in his policies, and leaves nothing undone to attract the New England folks to Boston during show week.

It is said, by those who have studied the matter closely, that the actual amount of business done at the Boston Automobile Show each year far exceeds that done at the New York or Chicago shows. However, this is a point which has never yet been accurately decided. In any event, the Boston show is a big business proposition, and this is proven by the fact that so many motorcycle firms have already taken space in it. A partial list of the concerns already booked is as follows:

Consolidated Manufacturing Company, Merkel-Light Motor Company, Ovington Motor Company, N. S. U. Motor Company, Bi-Motor Equipment Company, Harley-Davidson Motor Company, American Motor Company, Hendee Manufacturing Company, MOTORCYCLE ILLUSTRATED, The Auto-Bi Company, Walton Motor Company, Inc., Aurora Automatic Machinery Company, Reading Standard Company, Bicycling World, G. H. Curtiss Manufacturing Company, Excelsior Supply Company, Thiem Motorcycle Company, Motorcycle Manufacturers' Association, New Era Gas Engine Company.

1909 Improvements

FROM the forecast, contained in this issue, of the exhibits that will be revealed to view at Madison Square Garden when the doors of that building are thrown open Saturday evening, the thirteenth of this month, there can be picked out many features on the new machines that will appeal very strongly to the average rider. The average rider is the man who possesses but to a slight degree that mechanical ability necessary to keep his motor in the pink of condition all the time—the man who depends to a great extent on the repairman to keep going at all. He needs a machine that is as near fool-proof as it is possible to make it.

Manufacturers have realized this. At least two of the new models shown will be fitted with positive mechanical lubricating systems, where a pump, operated by the motor itself, furnishes oil in certain quantities and at proper times. This is a big step in the fool-proofing process. Minor improvements there are galore, most of them practical and substantial. The demand for comfort is to be realized: low riding positions, better saddles, spring forks, spring frames—all are to be found on the new models. Not on the machines alone are all the improvements either. Accessories are being made for motorcycles, and by concerns that have paid slight attention to this trade heretofore. Most noticeable in this line are the efforts being made by the tire makers. They want motorcycle business, and they are going to furnish us with better tires than ever before in order to get it.

Rural Free Delivery

RURAL free delivery letter carriers are using motorcycles in covering their routes. This is shown by the many subscriptions received for this paper, in which we receive such signatures as John Jones, R. F. D. Carrier, No. 1, etc. This reminds us that, on December 19, a telegram was sent to the postal authorities at Washington, and the contents of it published all over the country. It reported that a record for speed for all America was recently made by Carrier Frank E. Howell, at Vliets, Kansas. Carrier Howell employed the usual buggy, drawn by a span of small size horses. He covered the twenty-four miles in three and one-half hours, the post office average for the same distance in the state of Kansas being six and one-half hours. At first the authorities thought that Mr. Howel had used an automobile or motorcycle, and they were amazed when it was learned that he had used horseflesh in making the new record.

This opens up a very interesting question as to what could have been done had this carrier used a motorcycle. The route, be it remembered, was twenty-four miles; but there is very little chance of comparison over routes of similar length because the number of deliveries would not be the same. As many rural letter carriers read this paper, we should be very glad to have some of their experience for publication. We should like to know how much time it took them to cover their routes by horse and buggy, and how much they have saved since they took up motorcycling.

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CORRESPONDENCE

Experiences of a Beginner

I TAKE great interest and pleasure in reading MOTORCYCLE ILLUSTRATED, and thought perhaps a few lines from me in your correspondence columns might be of interest to other readers.

Before I touch upon the motorcycle question would like to relate a little previous experience in bicycling. I have been riding bicycles for the past twenty years; my first four were the old-fashioned kind with one large front wheel and a very small rear wheel. These machines were about as safe as the present day flying machines. I shall never forget my last ride upon one of the old "high wheelers." I started from the top of a long steep hill to beat a boy to the foot, in a friendly race, giving the boy half way down the hill as a handicap. I pushed as long as I could keep my feet on the pedals and then coasted the remainder of the way. Just as I reached the bottom of the hill, and also my greatest speed, the front tire jumped off and wedged in the fork, stopping the machine instantly. Did I fly on through space for several yards? No, those patent rams-horn handlebars just hooked around both my legs and threw me violently upon the ground, at full length, upon my face. I don't know how many turns the machine made after this; but I know it was entirely uninjured. As for myself, both ankles, both knees, both wrists and my right elbow were all badly sprained, while my left elbow was broken. The boy won the race. While reading over the columns of MOTORCYCLE ILLUSTRATED and noting the various accidents, I always think of my last race on that old "high wheeler."

The speed of the old fashioned bike was also in marked contrast to the motorcycle. I remember the first trip I ever took on one. My companion and I started on an early October morning. The air was cool, the sky clear, the roads good. When we were all tired out and stopped for the day at about four o'clock we had covered less than thirty miles, scarcely more than an hour's ride with the present motorcycle under the same conditions.

This last summer the "motorcycle fever" struck me badly, and after sending for the usual bunch of catalogues from different firms I decided upon a 3½-h. Curtiss. It arrived about the middle of September. Although an old bicyclist, I found I knew about as much about a motorcycle as I did about a bicycle, and no more. I have made all the mistakes and balks, I think, possible for a "green-horn" to make. Several times I have tried to start my machine with the plug resting quietly in my vest pocket. I have spoiled one set of batteries by short circuit, and one day spent three-quarters of an hour trying to locate trouble when the machine refused to go, only to find that there was no gasoline in the tank.

In the latter part of September I was returning from a neighboring city and was within about six miles of home when suddenly the motor stopped working. After a thorough investigation I found that a little spring which held the switch bar against the plug had played out, and opened the circuit. Six miles to pedal a motorcycle on a hot day and several steep hills to climb is enough to make the average motorcyclist "cuss." I thought of tieing the bar down; but that would not work, for then I could not open the exhaust to release compression and could not start. I was just about to remove the belt and pedal home when I noticed the elastic sleeve holder upon my arm. In just a jiffy I had adjusted it upon the little switch bar and was speeding down the road at a lively clip, and was home in a few minutes without even the skip of a single explosion.

About two weeks ago I was several miles south of here, and upon rounding a sharp turn at too great a speed my machine skidded out from under me and proceeded to tear things up generally. When I picked myself up (and the machine) one pedal and crank was lying on the ground, and the rear belt pulley was so badly bent that I could not push the machine on account of the pulley striking the frame. I felt pretty blue, and could see nothing ahead but a walk home and a special trip with a team to bring my wrecked motorcycle back. I got it into a neighboring blacksmith shop, and with a hammer straightened the bent pulley so it would no longer strike. Then tried the engine and found that it was uninjured. The crank shaft was broken and the remaining pedal therefore useless. But I got upon the seat, and with one pedal in my pocket and the other hanging down, I placed both feet on the cylinder head, and with a friendly push from a bystander I turned on the grips and again was soon home. But now I had to send clear to New York for repairs and put them in myself, as there is no shop where they do such work around here. In just one week the repairs were here, and my machine again in trim. The faithful Curtiss now awaits my further abuse.

But what a contrast all this is to the letter from Mr. V. W. Duke, from Glassboro, N. J., in MOTORCYCLE ILLUSTRATED of November 15. Do you wonder I was green with envy when I read it? Not because I wished I had an N. S. U., for my Curtiss has always taken me anywhere I desired to go; but because I see that I do not know the first principles of motorcycling as yet. Think of 6,800 miles over the worst roads without a cent for repairs and without a single stop of the motor! He must be at the top of the ladder and I at the bottom in motorcycling.

I would like to add right here that I believe the motorcyclists of the East and even of the far West know nothing of what bad roads in Iowa mean, and especially in southern Iowa. When muddy they are impassable for anything but horses, and I have seen four hitched to a light buggy to drag it through the mud. Then when the sun comes out, they dry quickly, and it would be an impossibility for a motorcycle or auto to pass over them until smoothed down. If Mr. Duke would attempt to ride over them in this condition he would find his machine where he said the racers would find theirs if they attempted to follow him for twenty-four hours, viz., in the scrap heap.

It might be of interest to learn that at present I own the only motorcycle in this county, Appanoose, although we have one city of nearly ten thousand, with street car line and paved streets. There are also two or three other towns in the county of nearly two thousand each. It seems as though it ought to be a good opportunity for some good motorcycle agent to establish a business.

Yours truly,

Cincinnati, Iowa. CHAS. D. CURTIS.

Facts About That Bennings Meet

I AM writing you this actual account of the Thanksgiving Day race meet at the Bennings track, near Washington, D. C., which, you will note, differs from that which you gave in your issue of December 1. I am sorry not to have gotten this to you in time for that issue; but trust that in justice to all concerned you may be able to use it in an early number. The National Capital Motorcycle Club only decided at the last minute to hold the meet, and considering the few days it had to complete arrangements the affair was certainly a success. While the track was rather soft and no very fast time was made, the races were run without a single mishap.

There were four races on the card, a ten mile handicap for singles, a fifteen mile for twins and singles, a twenty mile scratch for road machines and a thirty-five mile handicap open for twins and singles. The twenty and thirty-five mile races were cut to ten and twenty miles so they could be finished before dark.

The greatest interest centered in the twenty mile handicap, which brought out Bewley, Goerke and Chapple on big twins and Mangold, Genella and a good field of the smaller fry on singles. Mangold (Indian), Genella (Merkel), Beall (R-S) and Gettinger (Indian) were given a full mile handicap, while Goerke (Indian), Bewley (R-S) and Chapple (Indian) with the big twins started from scratch.

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This was an exciting race from start to finish. The limit men were well around the turn on their second mile before the bunch of scratch men got well under way, and it looked for a time as though the back markers would not get a look in; but the twins ran beautifully and soon began to close up the gap with Goerke slightly in the lead, Bewley second and Chapple bringing up the rear. After about the tenth mile Bewley began to overhaul Goerke, and in the twelfth mile Goerke changed for another mount and dropped back into last position. By this time Bewley was nearly a half mile in front of Chapple, both of whom had made up their lap on all the limit men except Mangold, who was overhauled by Bewley in the sixteenth mile. This placed Bewley in the lead and he was never headed, winning easily by nearly a lap from Chapple, while Mangold ran into third position.

A very amusing incident occurred just after the finish of this race when Chapple entered a protest against the judges' decision in awarding the first place to Bewley, claiming that he had caught Bewley on the last turn and passed him coming into the stretch. It seems that when Bewley finished he continued around slowly for another lap before dismounting and, of course, Chapple did pass him in the stretch; but this was after Bewley had finished. Chapple was so plainly mistaken that when the crowd learned of his protest they were inclined to treat it as a huge joke. However, as the protest was not submitted to the Referee in writing until the day after the races it was not acceptable under the F. A. M. rules.

The first race created considerable excitement owing to the fact that Mangold and Genella, the two local cracks, were entered. There has been considerable rivalry between these two all season, and this race resulted in a victory for Gonella; but Mangold evened up the score by running away from him in the twenty mile handicap later in the day. Goerke was second in the ten with Mangold third. Mangold succeeded in capturing the road machine race on a 3½-h. Indian, with Bewley a close second on a 3-h. R-S and Shaw, R-S, third. Goerke was the honor man in the fifteen mile handicap, winning in a close finish, with Mangold and Chapple riding in second and third places, respectively.

T. H. MUDD, JR.,
Vice-President Nat'l Capital M. C.

Attention: F. A. M. Men

I ENCLOSE a letter just received from Paul C. Kelley, of Point Loma, Cal. I received this in answer to my regular letter of welcome which I send each new member whose application I endorse. In this letter of welcome I request the new member to do what he can to aid the cause of the F. A. M. by securing new members. This letter of Mr. Kelley's is such an enthusiastic one that I am going to ask you to give space in your paper and publish it in full.

I wish to call the attention of all F. A. M. members to the enthusiasm of Mr. Kelley. Although he has only been a member of the Federation a few days, he has already secured two new members and wants more application blanks so that he can get more of his friends and acquaintances to join it. I wish to make a strong appeal to our members and ask them to follow Mr. Kelley's very excellent example. A good many of them are helping us in this same way, but the greater majority are rendering practically no assistance in obtaining new members. It does not take very much effort or time to hand an application blank to a friend and explain to him the advantages of joining the F. A. M. As the F. A. M. is the only national governing body of the sport of motorcycling in America, it deserves the support of every fair-minded motorcyclist, and it should be the pleasure, as well as the duty, of each F. A. M. member to secure as many new members as he possibly can. Those of you who have not a supply of blank applications may secure them gratis by addressing Secretary H. J. Wehman, 1150 Bedford avenue, Brooklyn, N. Y. Incidentally, if any member of the F. A. M. will forward the names and addresses of his fellow motorcyclists to me, I should be glad to correspond with these gentlemen and endeavor to explain to them the advantages of joining us.

Very truly yours,
EARLE L. OVINGTON, President.
2232 Broadway, New York City.

"My dear Mr. Ovington: Your kind letter welcoming me into the fold received night before last, and my pin, card, etc., received last night.

"I have already secured two new members, Mr. Lambla and Mr. James Urquhardt, of San Diego, both young men of good character. I recommended them and told them to send their remittance to you.

"Please be kind enough to answer a few questions for me.

"Please give me the name and address of the Vice-President of the Pacific district.

"Are there any F. A. M. members at Los Angeles, and if there are, about how many?

"What is the official repair station at Los Angeles, if there is any? Also official stopping places, as hotels?

"Mr. C. A. Sheppard, of the C. A. Sheppard Co., corner Fourth and C streets, is the agent for Indian motorcycles here, and if you write to him you may be able to get him to join. He is the captain of the M. C. C. of San Diego, which has about twenty members. At present he is in Los Angeles, and when he comes back I'm going after him.

"Mr. Clarke, care S. D. Cycle and Arms Co., is president of and Mr. George Comparet, care S. D. Union, is secretary of our club. You may do well to write to them. We have races down here quite often, and I would like to know what races F. A. M. members should not ride in, and if they require permission to ride in a race. In answering these questions you will ever so much oblige your fellow member,

"PAUL C. KELLEY.

"Point Loma, Cal.

"P. S.—That pin is a beauty and I wouldn't part with it for anything. It was that which caused our new members to join. 'Where did you get it, Paul—only a dollar a year? Sure, I'll join.' Please send me some more application blanks and oblige, Very truly yours,

"P. C. K."

Newspapers Are Taking Notice

ENCLOSED you will find clipping from the Cleveland *Leader* of November 12. This clipping is from the funny column that appears each day in the above paper. You will notice that in the joke on motorcycles that part is taken from other papers. If that is part of the joke I do not know. But what impresses me the most is the fact that when you become known well enough to appear in the funny papers you are certainly impressing the public with your size. I hope that it does not stop here but keeps on until the sport is talked of as much as any other sport or pastime that now occupies newspaper space.

Euclid, Ohio. EDWARD H. TTACY.

Thanks, E. H. T. We will pass it along just as it is. You might refer the *Leader* to Commissioner Bingham, New York Police Department, re the open muffler nuisance. He knows how to keep 'em on and closed, too.

OUR BIGOTRY.

"Why do all the men who ride motorcycles look alike?" asks the Richmond *Times-Dispatch*.

Move to amend by striking out "all the," "who" and "look alike."—Cleveland *Leader*.

Second the motion.—New York *Evening Mail*.

F. P. A.: Play fair, even if the Cleveland dyspeptic is unable to do so. We ride 'em—some of us, anyway—because they are the "gamest" little vehicles ever put on wheels, and ridden sanely, they afford more pleasure than anything you or the Clevelander may suggest, not even excepting your own column. Don't libel all of us simply because some of growing throng act and dress like chumps.

F. A. M.

Oh, very well. If the motorfiends are going to get snippy about it, we withdraw the motion. Only can't they get mufflers for their noisy little engines—Cleveland *Leader*.

THE MOTORCYCLE MART
SELLS THE STUFF
TWO CENTS A WORD

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Word From Chatsworth

[illegible] Chatsworth, Ill., is only a small place of [illegible] nevertheless has quite a few motor- [illegible] machines are represented here: Ar- [illegible] Harley-Davidson, Indian, Reading-Standard and Wagner. There [illegible] all of every one of them is pleased with [illegible] and we have had a fine riding season this year, [illegible] generally good. Although [illegible] during the week we never- [illegible] take [illegible] Sunday generally to some of the [illegible] machine in this town was a second- [illegible] when it made its appearance in 1906. It only [illegible] and was replaced by a Mitchell, which [illegible] nevertheless, started [illegible] larger cities near here [illegible] we hope to see them there [illegible] MOTORCYCLE ILLUS- [illegible] after publication [illegible] One of our men [illegible] every day. I myself find [illegible] to and from work, and [illegible] to and from the post [illegible] with your valuable magazine, I [illegible] readers.

J. C. BECKER,
Asst. Agt. I. C. R. R.

Chatsworth, Ill.

More About Saddle Positions

[illegible] Ovington's plea for two [illegible] and as this idea has [illegible] the past five years, I want [illegible] in the earnest endeavor to [illegible] to put on a hub brake, [illegible] our foreign brothers do. [illegible] the very experiences Mr. Ovington [illegible] running off owing to [illegible] and quick-witted action in [illegible] headway am I able [illegible]

[illegible] mechanical mind can see very readily [illegible] important improvement over [illegible] would only be a matter of but [illegible] on the front hub which [illegible] appearance in the least. [illegible] mind, as well as the old- [illegible] going down long and steep hills, and I look forward with much pleasure to the appearance of this very thing on some of our 1909 model American machines.

Let more letters to this effect be sent in by my brothers, for there's nothing so true as "united we stand, divided we fall," and the manufacturers will soon hear our "wail" if we keep it up. Yours very truly,

Birmingham, Ala. E. W. HOUSE.

A Cheap Trip

WISH to relate my experience on a ride of 160 miles by motorcycle on a hunting trip. I have a Merkel 2¼-h. machine, and left one Sunday morning at 8:30, with gun on my back and coat and shells on the rear of the seat. Had clear weather half way. Then I run into rain, with mud two inches thick. Made this trip of 80 miles in four hours and thirty minutes. Returned in four hours. Was delayed thirty minutes on return by accident to horse, which scared and jumped into a barb-wire fence. With other stops in towns, was riding only three hours, fifteen minutes. These eighty miles were for the most part over hills, which you know are rough through southern Ohio. The real thing of this trip was the fact that I only used twelve cents worth of gasoline, and had enough left in the tank to run twenty-five miles more. I run the last nine miles in just fifteen minutes. I will enter some of the races (long distance) next summer with my machine. Engine worked perfectly every inch of the way. HENRY HORNBERGER.

Springfield, Ohio.

How About This

I NOTICED in the correspondence columns of a recent issue a letter from V. W. Duke of Glassboro, N. J., in which he states his total cost of lubrication for 6,800 miles was 75 cents for one gallon of "Mobiloil." I have since been wondering how many gallons he obtained gratis, as he certainly does not mean to tell us that he "did" 6,800 miles on one gallon of lubricating oil. I have used this excellent brand of oil myself on a 2¼-h. machine, and the best I have been able to get out of a gallon without stinting my motor is about 1,000 miles. If our friend, V. W. D., has ran his motor 6,800 miles on this quantity of oil I would advise him to have his cylinder rebored and a new piston fitted. What say you, brother motorcyclists?

"STRAIGHT GOODS ADVOCATOR."

Norwood, Ohio.

THE PRACTICAL SIDE

[illegible] the good citizens of Pasadena, [illegible] a motorcycle for the use [illegible] Society. The present [illegible] rates, that of livery rigs, is [illegible]

[illegible] 11 o'clock at night [illegible] horses tied to a [illegible] get here?" A [illegible] in less than thirty min- [illegible]

[illegible] with the proper [illegible] provided. In this [illegible] presented in the calls the soci- [illegible] Sierra Madre, Mon- [illegible] San Gabriel, Al- [illegible] Tujunga, [illegible] courtesies are continually call- [illegible] chance.

[illegible] How soon can [illegible] at Sierra Madre, [illegible] this long

[illegible] merchants, the municipal [illegible] other users of motor [illegible] the maintenance of a [illegible] efficiency of their [illegible] in the amounts

HOW best to collect the mails is a problem before the Rochester, N. Y., postal authorities. The latest plan advanced is to do away with the antiquated nags and wagons now employed, and to mount the collectors on motorcycle tricars. At present the collection service is in the hands of a contractor, who supplies the horses and wagons for the post office employees. The government allows $300 a year for each of the outfits, and leaves it to the postmaster whether the money shall be given to the collectors for them to supply their own rigs or whether the contract for supplying them all shall be let out. For several years the contract has been let out and the post office has been compelled to put up with an ancient line of animals which threatened to collapse at the slightest provocation. Of late better animals have been supplied. Superintendent of City Delivery Joseph Vick will probably give the men a chance to decide for themselves how they will conduct the business in the future. Postmaster Whittlesey is willing to give the motorcycles a trial if it is shown they can be used in the winter season in the downtown district.

W. H. STEVENS is now covering his mail route out of Adel, Ia., on a motorcycle, and he finds it a great time saver. His route is twenty-five miles long and there are seventy-three stops on it. The first run he made in two and one-half hours, stopping at all points to distribute mail, and was detained by having to make a minor repair. When well acquainted with his machine Stevens expects to cover his route in two hours, just about half the time it takes to drive it.

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THE AMERICAN ABROAD

ONE of the few American visitors at the Stanley Show was Earle L. Ovington, President of the Ovington Motor Co. of New York, which firm, as all America knows, imports the F. N. Mr. Ovington prides himself with keeping up to the times on all that is going on in motorcycling. And it is for this reason that he visits the Stanley Show each year. He believes that at such a vast exhibition of motorcycles he can pick up much information, both of the theoretical and practical kind. It is his theory, and it seems a correct one, that in a show of this sort one learns what to avoid, for it is only after the motorcycle is completely finished and put on view that the result of the inventor's theories and of the drafting room work can be adequately measured.

While abroad Mr. Ovington has favored MOTORCYCLE ILLUSTRATED with several post cards, letters, etc. Much to his regret, he could not carry his phonographic system with him, and the result is a series of hasty but graphic communications. If only his phonograph had been with him we should no doubt have four pages of foreign stuff from Mr. Ovington's pen, or rather, lips, for he disdains the use of a pen except to put his signature to the phonographic output.

It should be very pleasing to Americans to know that Mr. Ovington was made very much of on the other side, not only because of his own personality, but because of his being president of the F. A. M. In any event, if you knew Ovington you could easily see that he is the sort of man who would quickly make his way into the heart of things. The trade took him up, as did also all the motor associations abroad. One of his characteristic letters is appended, dated from the Royal Automobile Club House (Piccadilly, London), the very friendly superscription being omitted:

"The Auto Cycle Union, governing body in Great Britain, gave me dinner. Some interesting matters were discussed. Very pleasant relations were established. They want an American team to come over next year (season 1909) to compete in an international hour race on Brooklands. I think it can be arranged.

"At dinner Mr. Todd, President Royal Automobile Club, and Auto Cycle Union as well, presided. Mr. Straight, Secretary Auto Cycle Union, as well as Mr. Baileau, technical editor *Motor Cycle*, were among the guests present. All expressed a desire to see some of our racers, whom I assured them could 'make them sit up and take notice.' I may talk foreign machines in America, but you bet I stick up for the home product when abroad. And I really think our racers could give them a rub, if not clean them out. Their 1909 touring machines are away ahead of ours, but I think our racers are in every way their equal.

"Went on a run on a pair of Vindec motorcycles with "Billy" Wells, the managing director of the Vindec. What roads! Like a billiard table for miles. And road houses every half mile or so, where twenty-five cent drinks (in America) can be had for 't'pence' (four cents).

"Took six pictures on trip and notes, and if desired, I'll write it up. Am so rushed can't write anything now; but if you wish I'll bark some stuff into my faithful phone when I return. I think I have some notes of general interest.

"Took F. N. 1909 car out to famous Brooklands track and averaged over 70 miles per hour around course. Can take the curves on a motorcycle with one hand. Leave for F. N. works tomorrow, and then to 'Gay Paree.'

"Very truly,

EARLE L. OVINGTON."

SOME NEW WIDMAYER SPECIALTIES

F. B. WIDMAYER, "The Motorcycle Man," of 2312 Broadway, New York City, has been making and selling for the past three years a device that he calls an "emergency pedal axle." This consists of a piece of hexagon or octagon steel, with surfaces for a wrench at both ends, turned down in the center like a spool, and having a shoulder with right hand thread at one end and a left hand thread at the other. In nearly every case where a motorcycle falls, the pedal is bent and its pedal pin or axle is liable to be broken. When he has one of these pedal axles in his tool bag or pocket a rider can, after removing the broken pedal, screw in the emergency pin, and thus form a temporary pedal or rest for the foot and so enable him to ride home in comfort, operate his coaster brake, etc. Many prominent motorcyclists in the East are using these emergency pedal axles, and say they are the most handy accessories they have in their tool kits.

Another fitting Widmayer reports a brisk demand in is the half-link for ⅜-inch roller chains. It sometimes happens one chain is too tight and the other too loose to make a proper adjustment, and there is not room enough to take out or put in a whole link; but by using a half-link the adjustment can be made just as it should be. A small pocket gasoline injector with bent spout and automatic shut off is another device which is in demand now that cold weather is here. These are very convenient to carry gasoline or kerosene with which to "dope" the motor for easy starting when the thermometer drops to around freezing point.

A neat, compact, Yale switch to fit into the head of the battery tube is another new device. With this, on the Indian type of machine, it is an impossibility for a person to run the motor unless he possesses the proper key to turn switch and so close the ignition circuit. Judging from the number of motorcycles stolen this season this fitting, even at a cost of $5, is a good investment for any rider who does not care to lose his machine. Mr. Widmayer will be pleased to send his complete catalogue of motorcycle accessories to any rider on request.

FOR the benefit of those riders who have found it difficult to start their motor because of the ignition apparatus, the N. S. U. Motor Co., of 205 W. 76th Street, New York City, have gotten out an "Easy Starting Plug" that sells for $1.50. The plug is made with mica insulation, ½-inch nut, and lava insulation 1 inch nut. Both have the metric thread. The ignition arc occurs between three steel points and a platinum wound steel wire: should any one point become carbonized the others will continue to spark as usual.

THE B. F. Goodrich Co. has just opened up four new branches. This move was found necessary on account of the increased demand for Goodrich tires in the localities covered by these branch houses, which are located as follows: Kansas City, Mo., 1728 Grand avenue, Fritz Oberhue, manager; Minneapolis, Minn., 827 Hennepin avenue, E. W. McCreery, manager; Pittsburg, Pa., 5900 Penn avenue, H. L. Bouker, manager; Atlanta, Ga., 64 N. Pryor street, E. V. Wilkinson, manager.

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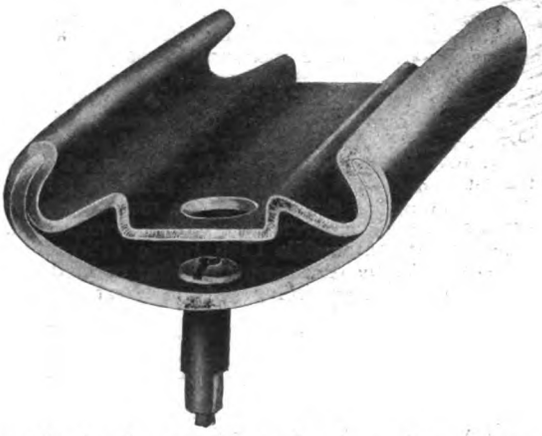
SPEC

G&J

and

G & J Double

The Combination
For Motorcyc



This motorcycle rim has proven to be the safest and most satisfactory rim on the market and is used as standard equipment by most all of the manufacturers. It holds the tire on firmly and also prevents sand and dirt from working into the channel of the rim and damaging the inner tube. Owing to the construction of this rim it is very strong and rigid and does not dent easily or get out of true, and the ends of the spokes cannot damage the tire.

See Our Exhibi

G&J

Indianap

DETROIT, 256 Jefferson Ave.
CHICAGO, 1434 Michigan Ave.
NEW YORK, 10 W. Sixtieth St.
SAN FRANCISCO, 414 Van Ness Ave.
DENVER, 1541 Cleveland Place.
BUFFALO, 912 Main St.

PHILADELPHIA
LOS ANGELES,
MINNEAPOLIS,
OMAHA, 1608 H
ATLANTA, 35 N.

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CIFY

TIRES

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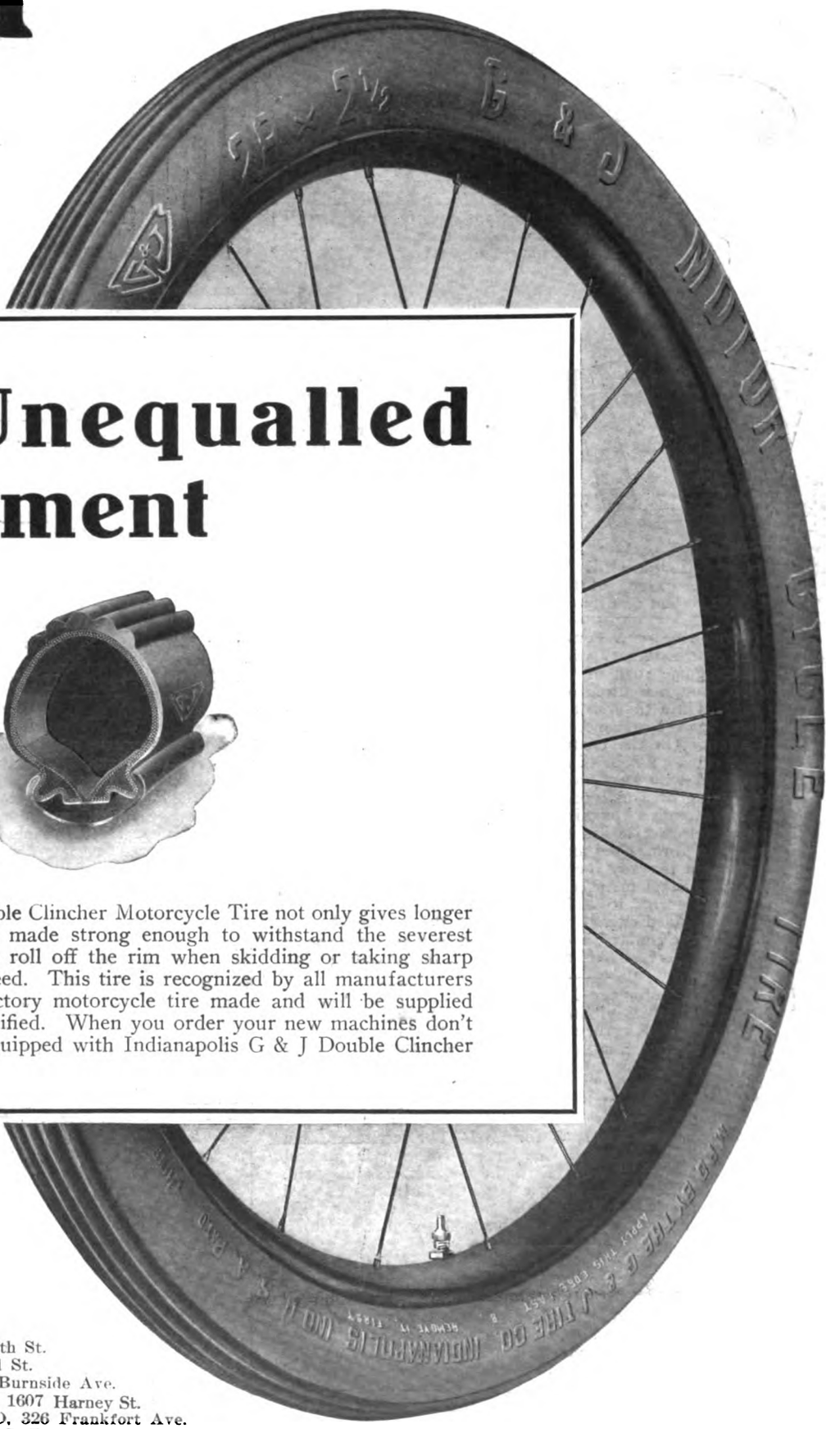
Clincher Rims



That's Unequalled
le Equipment

The Indianapolis Double Clincher Motorcycle Tire not only gives longer and better service, but is made strong enough to withstand the severest strains. It cannot pull or roll off the rim when skidding or taking sharp turns at a high rate of speed. This tire is recognized by all manufacturers as being the most satisfactory motorcycle tire made and will be supplied on any machine when specified. When you order your new machines don't overlook ordering them equipped with Indianapolis G & J Double Clincher Tires and Rims.

t at the Shows

IRE Co.

olis, Ind.

713 Broad St.
1010 S. Main St.
1 S. Second St.
ney St.
Pryor St.

ST. LOUIS, 415 N. Fourth St.
BOSTON, 110 Federal St.
PORTLAND, 326 Burnside Ave.
KANSAS CITY, 1607 Harney St.
CLEVELAND, 326 Frankfort Ave.
PITTSBURG, Baum and Beatty Sts.

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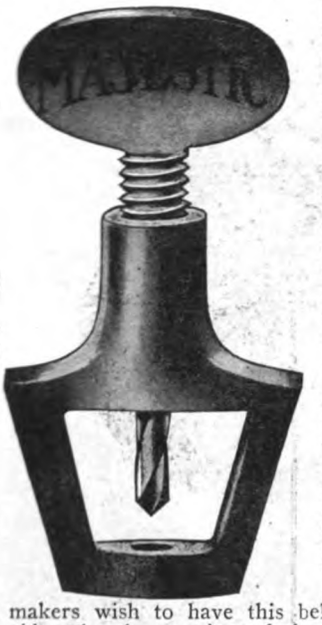
New Belt Punch

ONCE in a while a rider has his attention drawn to some device of such value and simplicity that he wonders how in the world he has existed without it so long, or did not himself think to have it made. In this class of keenly conceived and carefully-thought-out specialties is the new Majestic belt-drill, of which cut is shown.



All users of "V" belts know the importance, in shortening a belt, of getting the hole or holes for the fastener screws absolutely true, that tear-cuts may be prevented. The use of an ordinary belt punch is usually objectionable, as it spreads the hole unduly at one end, causing greater strain on the tight end. The Majestic Manufacturing Company, of Worcester, Mass., have produced a little tool especially designed for drilling "V" belts and it works with equal accuracy on belts either three-quarters, seven-eighths or one inch wide. The main frame is of polished aluminum, and the head and screw is of highly finished bronze with the drill set permanently therein. The makers wish to have this belt-drill well known among the riders by the opening of the season and so will mail them direct upon receipt of fifty cents in stamps.

YOU who ride on a Persons saddle might like to have an idea of the factory which turns it out. This is located on Bloomingdale road in Worcester, almost in the heart of the town, though abutting on the railroad, which makes shipping easy. On a first visit one is surprised at the extent of the place, for the preconceived notion is that it is probably a small affair. On the contrary, the Persons Manufacturing Company occupy a floor of about 80 x 150, filled with machinery, crowded with busy workmen.

The making of a motorcycle saddle, on close investigation, proves to be quite a complicated operation. The right leather has to be selected, it has to be steeped to make it flexible, stamped into form, dyed and put through many other operations before it is ready for mounting. Then, of course, there are the many other metal parts of the saddle, all of which require special forms to make them. Indeed, the process is quite a many-sided one. From this plant Persons saddles are sent all over the country, and the demand each year has shown a remarkable increase over the business of the preceding year.

THE Aurora Automatic Machinery Co. finds a big California outlet for its produce through A. Freed, who maintains an important agency at 1505-1507 Market street, San Francisco. He has a large territory, in which are a number of his special agents. Recently the following firms have obtained the Thor agency through Mr. Freed: Riverside—The Riverside Cycle and Sporting Goods Co., local agents, will make the Thor their leader. Pasadena—Pasadena Sporting Goods Co. have arranged for local Thor territory. San Diego—Frank G. Kiessig & Co., agency for San Diego and surrounding neighborhood. Escondido—Cook & McDonald, local agency. Pomona—Pomona Mfg. Co. have just entered the motorcycle field and will lead off with the Thor. Etiwanda—Mr. E. W. Wilson has arranged for that territory.

THE HENRY T. ADAMS COMPANY, of Chicago, Ill., are advertising a very useful article for motorcyclists to carry in their tool bags. It is only a simple piece of turned steel, with a right and left hand thread at either end; but in case of a fall, when usually one of the pedals is the first thing to break, one of these emergency pedals can be screwed in with a wrench in a moment's time, and the rider will be saved the inconvenience of possible delay, and also the danger of riding without pedals. The fitting is illustrated in their advertisement.

Recent Incorporations

ARTICLES of incorporation were filed on December 12 at Elizabeth, N. J., by the Summit Motor Company. The incorporators are Howard H. Day, Rosalie Nelson and Harry Baldwin, all of Summit. The capital is $5,000, and the concern will make and sell automobiles and motorcycles.

FRANK B. WIDMAYER CO., 2312 Broadway, New York City. Capital, $10,000. To manufacture, sell, repair and store motorcycles, bicycles, automobiles and mechanical and electrical devices of all kinds. F. M. Widmayer, Pres. and Treas.; W. F. Widmayer, Jr., Vice-Pres.; H. C. Mapp, Sec.

THE Brick Church Automobile Company, East Orange; capital, $100,000. Incorporators—L. Burr Manning, John B. Todd and Melvin O. C. Hull. The company is to manufacture automobiles, repair, model automobiles and motorcycles, and conduct an automobile garage, &c.

AMERICAN MOTORCYCLE CO., Chicago, Ill. Capital, $15,000. To manufacture and sell motorcycles, automobiles, etc. Incorporators: William H. Hess, O. W. Frischkorn, Alvin J. Musselman.

AN improved roller chain has been prepared for motorcycle use by the Duckworth Chain & Mfg. Co., of Springfield, Mass. This concern is one of the oldest bicycle chain manufacturers in the country, and it was one of the very first to make a bid for motorcycle business. The new Duckworth chain is better than ever, and the makers have increased the capacity of their plant so that all orders can be filled promptly. It is claimed that over 90 per cent. of the chain-driven motorcycles made in this country are fitted with Duckworth chains. Literature, prices, etc., will be gladly mailed on application.

THE Indian agency for Hartford, Conn., has been secured by Geo. H. Maslin. He has opened a store at 1206 Main street, and will handle a full line of parts and motorcycle supplies, as well as conduct a repair shop, at that address.

PHOTO shows the store of Lincoln Holland, at Los Angeles. A few months ago, Mr. Holland, after a quarter of a century of successful cycle selling at Worcester, Mass., jumped across the continent with a carload of M.-M.'s and opened a depot in the most famous motorcycle city in these United States, the town of the Angels. Mr. Holland is sure to get his share of the business, but, better than that, he will make a host of new friends, for he's the "best ever." Meanwhile Lincoln, Jr., keeps pushing things at the same old stand at Worcester.

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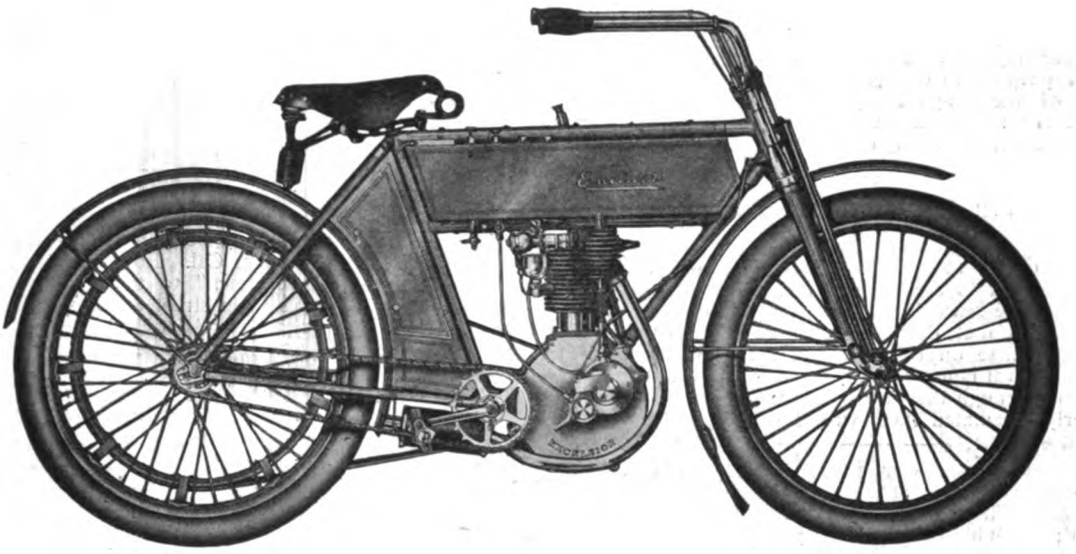

Motorcycle Dealers

Do you know that

EXCELSIOR DEALERS

are ***Prosperous Dealers*** and that satisfied owners have made them so?

Excelsior Auto-Cycles

have been tried in every kind of real practical service and have made good every time.

Our 1909 Line and 1909 Proposition will be the best ever offered and will be backed by the experience, resources and business integrity of a company of thirty-two years standing.

EXCELSIOR AUTO-CYCLES

will be sold by established dealers only, no curbstone brokers or pocket agents, and at a fixed and invariable price.

If you mean business, so do we. Let's get together.

Excelsior Supply Co.

233-237 Randolph Street **Chicago, Illinois**

Established 1876

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Heckler Business Sold

THE business formerly conducted by Charles T. Heckler at 222 Penn street, Reading, Pa., has been sold by his estate to James Mayo, of Pottstown. Mr. Mayo is President of the Mayo-Damper Company, and has been manufacturing motorcycles in a limited way for several years. It is now his purpose to devote his entire time to the motorcycle end of the Mayo-Damper business, and to make a strong bid for additional motorcycle trade. Harry Straub will look after the repair department at the Penn street address.

Will Handle the Indian

H. J. KOEHLER, the well known sporting goods and automobile dealer at 845 Broad street, Newark, N. J., recently paid a visit to the Hendee factory, Springfield, where he closed for the season of 1909, placing a substantial order as a starter. He took down with him two of his young men, who will specialize on the motorcycle end of the business. They spent several hours with Superintendent Ellingham, who showed them through the factory in a most thorough fashion, and properly inoculated them with Indian gospel.

THE American Motor Company of Brockton, Mass., makers of M. M. motorcycles, are looking forward to a big season for 1909. They report that at this season of the year their sales are double those of last year for the same period. Immediately after the Show Mr. E. R. Marsh will leave for the Middle West, and will open a branch store at Chicago. This will be the M. M. western distributing point. Mr. Marsh expects to devote a large part of next year in working up central and far western trade.

New Motorcycle Coil

THE Lemke-Briggs Electric Co. of Milwaukee, Wis., are featuring a new motorcycle coil for 1909 which they claim to be superior in several ways to other coils now on the market. This Company has secured several large contracts including the Harley-Davidson Motor Company's equipment for the coming year. The Company has also added several new articles to their line; spark plugs and battery connectors, etc., and reports that things are looking fine for next season.

Curtiss in Los Angeles

ANOTHER addition has been made to the "Motorcycle Row" in Los Angeles, Cal. Roy Knabenshue, the aerial navigator, will "come down" to terra firma and establish himself at 1034 South Main street as the Curtiss agent. His salesroom will be right next door to that of Lincoln Holland, who recently established the M. M. on the coast. Mr. Knabenshue hopes to have things in full swing by January 1.

G & J tires were the equipment on the Harley-Davidson that was ridden by Delavan in the recent Aurora meet. Delavan won the last of a series of events at this track, and three out of the four run. He took away a handsome silver challenge cup as his reward.

NEW quarters have been leased at 1849 Broadway, New York City, by Morgan & Wright, and their local branch will be moved into the new building just as soon as alterations that are now under way have been completed.

MOTORCYCLE MART—IT SELLS THE STUFF

Buy; Sell; Exchange. Two Cents a Word. Cash With Copy

A MOTORCYCLE DESIGNER OF NINE YEARS' EXPERIENCE, who is a first class demonstrator, hill climber and competition rider, a capable advertisement and business man, with advanced ideas on motorcycle and tricar construction, at present with leading automobile company, desires a position with any well known manufacturer of motorcycles or light cars. Designer, care MOTORCYCLE ILLUSTRATED.

FOR SALE.—3½-h. Harley-Davidson Motorcycle, purchased September 1, 1908. Run less than 250 miles. Finest condition. Tires barely show any wear. Will give regular manufacturers' guarantee for one year. Best single-cylinder machine in the world. Sickness cause of sale. $150. Matt Collins, 36 Notre Dame street, Sandy Hill, N. Y.

FOR SALE.—1908 M. M. Special built, 4 h., with tandem attachment. 1909 carbureter, tires good as new. $20 worth of extras. Very powerful. Is a beautiful motorcycle; cost $250 last June. Sell for $160. Must have money reason for selling. Frank E. Burke, Box 103, Miller, South Dakota.

G. AND A. CARBURETERS.—Adopted by the leading American automobile manufacturers for 1909 season. Economical, fast and absolutely automatic. Motorcycle sizes, $15. George V. Lyons Motor Company, 2384 Broadway, New York.

MACHINIST, with twenty years' shop experience, wishes work in motorcycle repair shop or factory. Is willing to go anywhere in the United States. Address at any time, care of MOTORCYCLE ILLUSTRATED.

MACHINIST, with two years of special training on machine construction and design work at Pratt Institute, desires a position in a motorcycle or repair shop. Machinist and Designer, 564 East Twenty-third street, Brooklyn, N. Y.

1907 WAGNER—3-h., with all latest 1908 improvements, new tires, and machine in good running condition, for the low price of $125, if sold soon. C. A. Horner, Brighton, Ind.

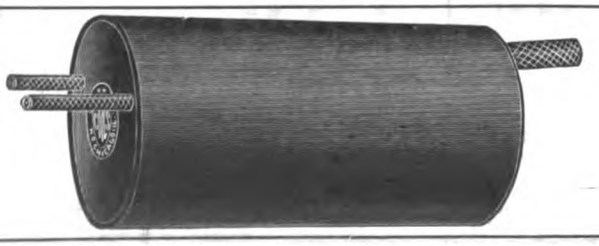
MOTORCYCLISTS.—We have something that you need and will want when you know about it. Send for particulars. Motorcycle Specialty Company, 258B Columbus ave., Boston.

FOR SALE.—Two (2) new 1908, 3½-h. Motorcycles. Cause sale, closing out agency. Send stamp for particulars. 602 Conkey street, Burlington, Wis.

F. N. 1908 MODEL, in first class condition, $250. One F. N. sidecar, $50. E. H., Alexander, Lexington, Ky.

NO MOTORCYCLIST

will ride another saddle after he has tried a
MESINGER 1909 fitted with **SHOCK ABSORBER**
H. & F. MESINGER MANUFACTURING CO.
1801-3 FIRST AVENUE **NEW YORK**



Pfanstiehl Motorcycle Coils GUARANTEED FOR FIVE YEARS

INDESTRUCTIBILITY RELIABILITY PRICE

Three reasons why you should adopt this Coil.

Exclusive equipment with seven leading manufacturers. Years ahead of any other owing to our patented system of construction. *Write for particulars.*

PFANSTIEHL ELECTRICAL LABORATORY
22d and State Streets **North Chicago, Ill.**

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WITHIN THE FOLD

MINNEAPOLIS, MINN.—After touring the principal countries of Europe by motorcycle, the last eighteen months, Paul Bushnell, of Aberdeen, S. D., arrived in Minneapolis on November 17 for a short visit. He is the guest of friends who attended college with him at St. John's Military Academy, Delafield, Wis. Mr. Bushnell was particularly impressed with the excellent driveways of Europe, which make motoring a pleasant means of traveling there. He spent the greater portion of his trip in Holland, Germany and France. He said that the entire trip through Europe on his cycle cost on the average of $75 a month with accommodation that would be called first class in this country.

LOS ANGELES, CAL.—Fred, Harry and Victor Webster, of Duluth, Minn., arrived in this city recently after finishing one of the hardest as well as one of the most strenuous trips ever undertaken with a motorcycle. The three brothers left Duluth, Minn., 152 miles north of Minneapolis, and traveled over roads well nigh impassable before reaching Denver. From Denver it was impossible to ride their machines further, and in consequence the two-wheelers were shipped from that point to Los Angeles.

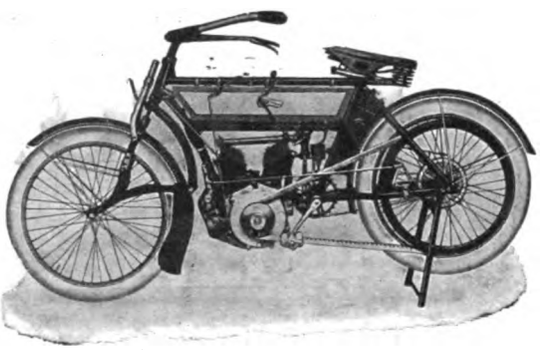
LORAIN, O.—Dr. A. M. Webster, a local enthusiast, since his Indian was recently damaged by fire, has decided to buy the fastest thing on two wheels he can find and go into the racing game next year. The Doctor made some very fast time during the past summer on some of the small Ohio tracks and over the roads, and now wants to get into the thick of the fun.

LANCASTER, PA.—Mark Ferguson, an employee of the city's lighting department, is building a tricar for himself in his spare time. The motor he had, and the frame, etc., has cost him about $100. The assembling is being done in a room at the rear of the City Hall.

Vindec Special

THE MOTORCYCLE OF MERIT

THE MACHINE THAT HAS MADE THE NAME "VINDEC" FAMOUS



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Send for Booklet which describes these Famous Machines

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Sole Representatives for Eastern States

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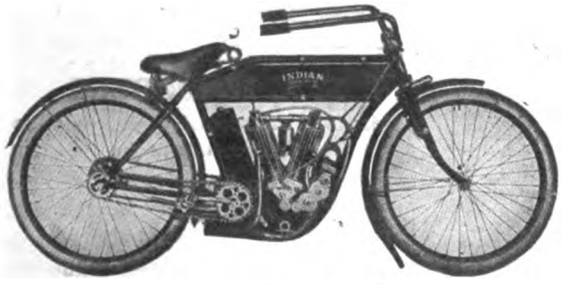
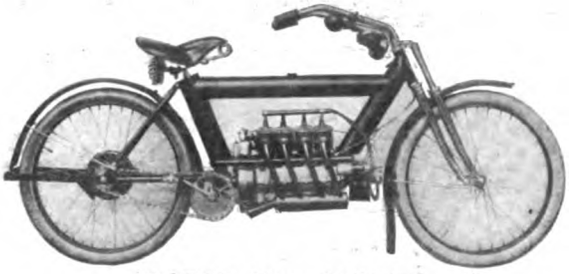
INDIAN AND PIERCE

1909 Models



INDIAN, 2¾, 3½, 4, 5, 7 H.-P.



PIERCE Four Cylinder

F. A. BAKER & CO.

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Distributors for Greater New York and Long Island

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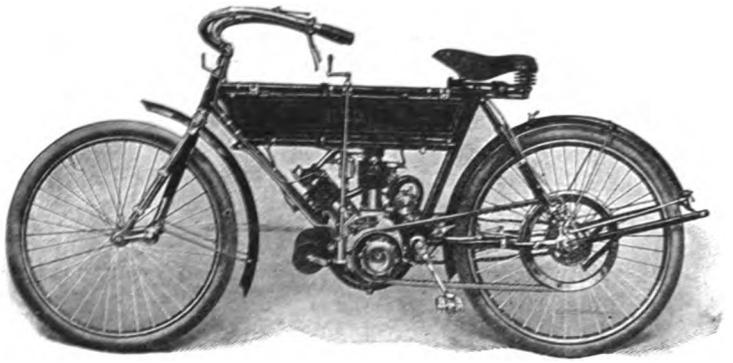
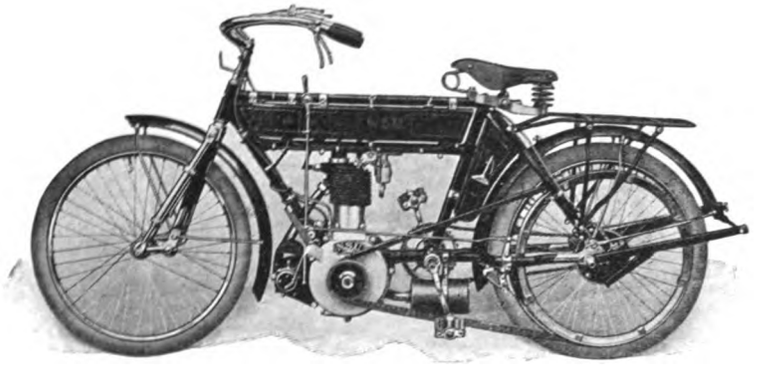
1909 NSU 1909

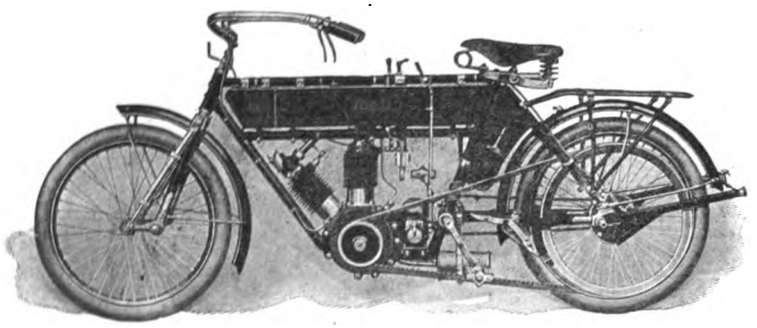
MOTORCYCLES



3. H. P. Twin Lightweight



4 H. P. Model de Lux



6 H. P. Model de Lux

Always foremost in the introduction of any new feature which contributes to greater mechanical efficiency and general utility, the 1909 N. S. U. models will be found to embody improvements which cannot fail to interest every motorcyclist; in short, N. S. U. means motorcycles

OF QUALITY

ONLY A FEW OF OUR EXTENSIVE 1909 LINE

IF you are intending to buy

WAIT!

till you see the most stupendous exhibition of motorcycles ever exhibited by any manufacturer—Space No. 533, Madison Square Garden, New York City. Ask to see the famous

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Also we are positive you will be interested in the

N. S. U. Two Speed Gear
N. S. U. Free Engine Clutch
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N. S. U. Non-Skid Bands
N. S. U. Spark Plugs
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The N. S. U. Standard Touring Models are the Best and Simplest of their kind

AGENTS! Secure your territory now

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EXHIBIT

OF

1909 Motorcycles and Accessories

AT THE

NINTH NATIONAL AUTOMOBILE SHOW

At MADISON SQUARE GARDEN JANUARY 16th to 23rd, 1909

Under the Auspices of

ASSOCIATION OF LICENSED AUTOMOBILE MANUFACTURERS

THE MOTOR CYCLE MANUFACTURERS ASSOCIATION will exhibit in no other show in New York this season

The following firms will exhibit

MOTORCYCLES

American Motor Co.
Auto-Bi Co.
Aurora Automatic Machinery Co.
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Crouch Motor Co.
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Reading Standard Co.
Reliance Motorcycle Co.
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Eclipse Machine Co.
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Motor Car Equipment Co.
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Admission, 50 Cents ***Tuesday and Thursday, $1.00***

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The center of interest at the Garden Show will be the M.M. Exhibit. Every machine from the stanch road model to the flying twin shows mechanical perfectness and pleasing lines that captivate the buyer. Get your territory early in the week.

American Motor Co.

Brockton, Mass.

Factory Representative

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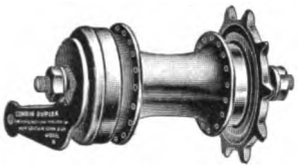
Corbin Hubs
FOR 1909

Corbin Duplex

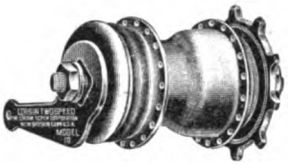


Coaster Brake Model 8.

Corbin Front

Hub Model 16.

Corbin Two-Speed



Coaster Brake Model 10.

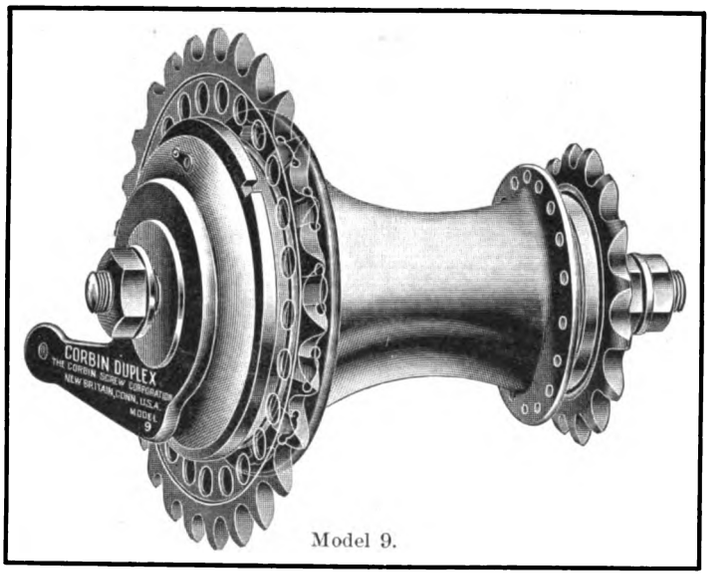
OUR BEST IN MOTOR BRAKES

Made in two widths,

Model 9, 1 15-16 Chain Line

Model 9A, 2¼ Chain Line

Any Size Sprocket either ⅝" or 1" pitch



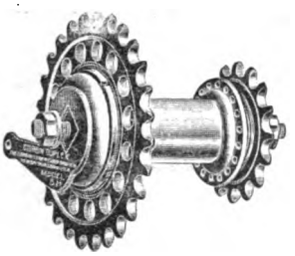
Model 9.

Made for either Chain or Belt Drive Motors

½ inch Axle
Larger Bearings
More Breaking Surface
than any other Motor Brake
on the market

Catalogue and Show Card on Request

Corbin Motor

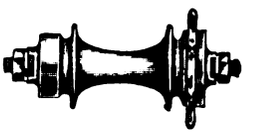


Brake Model 5-H.

Corbin Motor

Front Hub Model 15.

Corbin Rear



Hub Model 26.

The Corbin Screw Corporation
NEW BRITAIN, CONN.

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Ribbed Tread Motorcycle Tire

Marks the beginning of a new era for motorcycle users.
It departs entirely from the makeshift bicycle tire type which never gave satisfaction to motorcyclists—and never will—and offers instead the MOLDED FORM OF CONSTRUCTION, and this form of construction means nothing less than—BUILT LIKE AN AUTOMOBILE TIRE. Right here it is only fair to you and ourselves to state that the Goodrich 1909 Ribbed Tread Tire is the only motorcycle tire constructed along the same lines as the best automobile tires. A construction that gives the greatest strength and at the same time is not of a heavy cumbersome nature which kills resiliency.

HARD TO WEAR OUT
EASY TO RIDE ON

The B. F. Goodrich Company, Akron, Ohio

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THE MOTORCYCLE
SUPREME

CHAIN, GEARED AND BELT TRANSMISSION.

Magneto or Battery Ignition

Will be exhibited at N. Y. Madison Square Garden, Jan. 16th to 23d,
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WE HAVE SOMETHING TO SHOW YOU IN THE WAY OF QUALITY, WORKMANSHIP AND SKILL.

DON'T FAIL TO SEE THE

Thor PNEUMATIC CUSHION FORKS

If You Can't Go to the Show, Write for Catalogue No. 9

Aurora Automatic Machinery Company
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Merkel-Light Motor Co.

TWO KINDS — ONE QUALITY

MERKEL
Belt Drive

After hailing many successful years from Milwaukee, Wis., the MERKEL has a new home at Pottstown, Pa.

We are now established in a new, modern, five-story, brick building, with every known facility to produce the highest type of motorcycle in all its many details. An equipment that will permit not only greater but faster progress.

Endowed with a large variety of machine tools, including grinding machines, and every necessary accessory to manufacture only the BEST, under the guidance of the trained hand of the foremost engine and successful designer, Mr. J. F. Merkel. The M-L line will be unsurpassed, and one of the greatest accessions to dealers who are fortunate enough to represent those interests.

FOR 1909
Three Belt Driven Models

[illegible] Single Cylinder, Battery Ignition.

[illegible] Single Cylinder with gear driven ball bearing magneto.

[illegible] Double Cylinder gear driven ball bearing magneto.

[illegible] with the improved and only CUSHION FRAME as applied to motorcycles, now in its successful year. Just anyone who has [illegible]

[illegible] perfect flexibility

[illegible] with new and original design. [illegible] and RUBBER, and will insure [illegible]

[illegible] V-BELTS.

[illegible] [illegible] exhaust [illegible] and [illegible] the evil of oil.

[illegible]

FOR 1909
Three Chain Driven Models

24 H. P. Single Cylinder, Battery Ignition.

2½ H. P. Single Cylinder, Battery Ignition.

2 H. P. Double Cylinder, gear driven ball bearing magneto ignition.

The equipment of these chain driven models is the very highest that can be produced. It embodies all the latest ideas of engineering skill.

Motors are mounted in loop constructed frames, with double top bars.

Spring forks and double grip control on all models. Will be furnished with 26 inch or 28 inch wheels.

Black or Ruben's red finish at purchaser's option.

Our 24 H. P. model is the most attractive, complete and efficient proposition offered by any manufacturer and represents more **actual value** for the money than anything ever produced. It is the biggest money maker for the dealer.

Meet us at the New York, Chicago and Boston Shows

MERKEL-LIGHT MOTOR CO., Pottstown, Pa.

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KOKOMO

Gridiron Tread Motorcycle Tire

Here, Mr. Motorcyclist, is a tire that will suit you. We know it will—this is why:

The Gridiron tread is a part of the tire itself, and it will retain its non-skidding advantages till the tire is worn right down to the fabric. The canvas fabric we use is very closely woven, especially adapted for retaining the rubber. This tire is moulded, that is, shaped and built up in a mould, not made flat. This is the way automobile tires are constructed. In the Gridiron tread there is plenty of rubber in contact with the ground to afford security on wet asphalt; but there is, at the same time, enough open space between the ridges of the tread to make the tire positively non-skidding in mud and over frozen roads.

GRIDIRON TREAD

WILL NOT SKID

MOULDED TO SHAPE FLEXIBLE TOUGH NON-SKIDDING

We have been building automobile, bicycle and carriage tires since 1895, and there is all the experience gained in these many years incorporated in the construction of the Gridiron Tread motorcycle tire. Our factory is equipped with the most modern facilities for turning out good tires, and we aim to supply motorcycle tires so good that you will always ride on them.

Ask for our motorcycle booklet with the "Reasons Why," which will be ready soon.

Manufactured By

THE KOKOMO RUBBER COMPANY

South Main Street, KOKOMO, IND.

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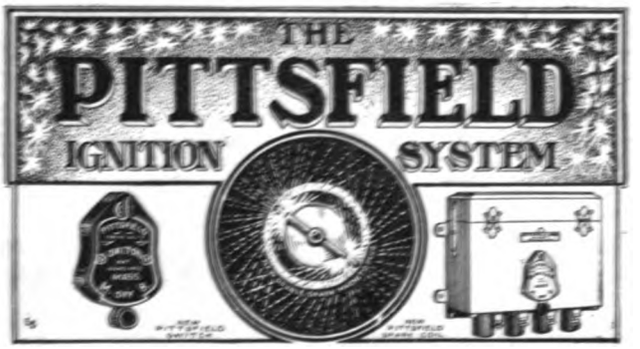

BEST FOR MOTORCYCLES

Superior propelling power. *Does not drag* but *drives* car, motorcycle, boat or machinery. Explodes the charges of all gas, gasoline and alcohol engines. Invariably reliable and automatically positive. Sure in all the functions of the different elements.

Pittsfield apparatus operates with unfailing certainty, meeting every demand, no matter how exacting or severe. Supplies with inevitable regularity the fierce, hot sparks that give a reliable and absolutely controllable force from the slowest to the swiftest speed.

The New

Pittsfield Magneto Plug

The New Pittsfield Magneto Plug is a triumph of inventive genius. The two spark gaps lie in the same plane, which is at right angles to the axis of the plug, so that both sparks fire straight out into the mixture. In make-up it is beyond criticism, both electrically and mechanically: the insulation is practically *solid mica* and impenetrable to the highest tensions of to-day.

The Pittsfield Spark Coil

The Pittsfield Spark Coil is the synonym of all that is ideal. Designed by a celebrated expert, constructed by experienced mechanics under the most exacting supervision, it has forced its way to the very front rank in every branch of motor work.

The Pittsfield Switch

The Pittsfield Switch is not approached by any other device of its kind for absolute dependability under any and all conditions of service.

Utterly impossible to short circuit batteries through this switch through any combination of switch position and plug.

With plug removed the lever may be left or put on battery terminal with perfect impunity, as the circuit is wide open and must remain so until the plug is replaced. At the same time the magneto circuit is positively closed, making it inoperative and useless while plug is out.

The products of the Pittsfield Spark Coil Co. are made for hard, exacting, long-continued service and with the purpose of earning a reputation as the very best apparatus of their kind anywhere.

Full information on request.

PITTSFIELD SPARK COIL CO.
DALTON, MASS.

New York Sporting Goods Company. 17 Warren Street
New York Distributors

See us at the Madison Square Garden Show and learn about

The Roller Bearing Machines of Quality

Silent, Refined, Speedy, Powerful

More features of Merit. More talking points. Holds World's Records for Speed

(Both Single and Double Cylinder)

Winner of many Endurance Contests

WE ORIGINATED

6 Years Ago
The trussed frame and forks
The Upright motor position
Roller bearing engines

Our 1909 machines employ these and many other exclusive "CURTISS" features you can't afford to be without.

DON'T FAIL TO SEE OUR

Three Cylinder 10 H. P. Machine

AT THE SHOW, JANUARY 16th TO 23d.

Send for advance circular

G. H. CURTISS MFG. CO.
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WEAR LONGEST

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TRADE MARK

MOTORCYCLE GAS LAMP

And Independent Gas Generator

(Patent Air Cooling System)

Just What You Have Been Looking For

The most powerful motorcycle lighting apparatus made.
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SATISFACTORY OR MONEY BACK

All First Class Dealers. Write For Literature.

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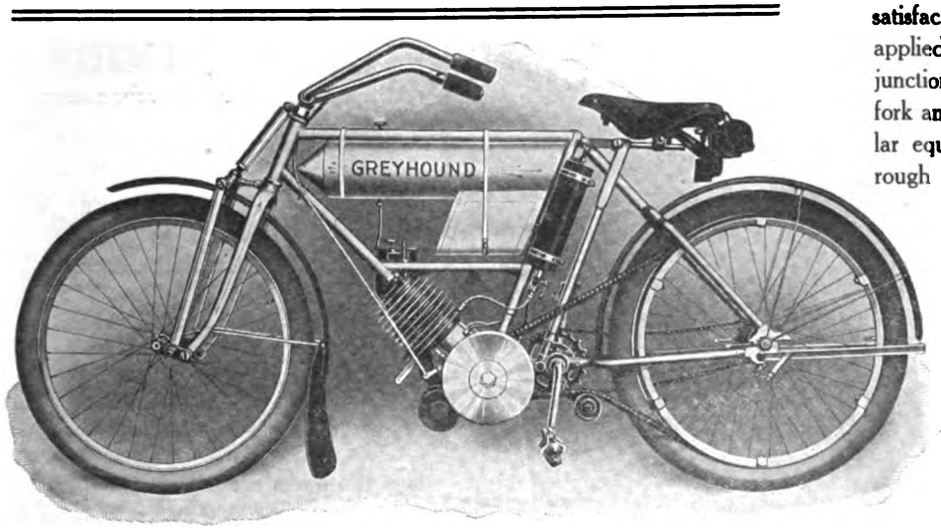
Main Office, 933 Arch St. Philadelphia Pa.

World Beaters For Comfort.



The GREYHOUND Shock Absorber is the most efficient and satisfactory comfort device ever applied to a motorcycle. In conjunction with our perfect spring fork and 2½ inch tires (our regular equipment) it completely robs rough going of its terrors.

The 1909 GREYHOUND is refined and perfected at all points, quite worthy to take first place in today's market. Ample power, great simplicity, fine design, honest workmanship. Many good distinctive features.

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GOOD AGENTS ALWAYS WANTED AND APPRECIATED.

1457 Niagara Street **THE AUTO-BI COMPANY,** BUFFALO, N. Y.

AT THE GARDEN SHOW IN NEW YORK.—SPACE No. 545

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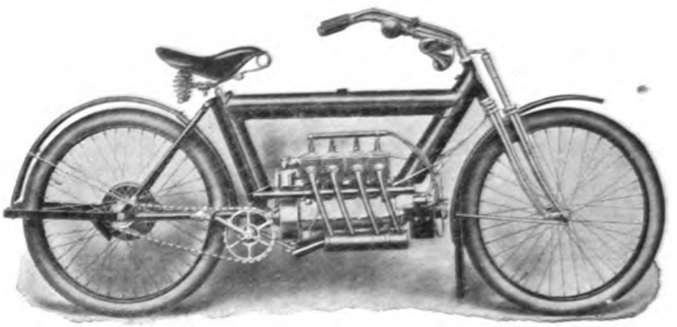
THE PIERCE VIBRATIONLESS MOTORCYCLE

With Shaft and Gear Drive, Force Feed Lubrication, Mechanical Valves, Magneto, Two Brakes, Grip Control solely, Powerful Frame and no separate tanks.



Without Chain or Belt, Hand Oiling, Automatic Valves, Batteries and Coil, One Brake, Grip and Lever Control, Bicycle Frame and separate tanks.

4 CYLINDERS

The Pierce Motorcyle could only be built by men of skill and experience and only a firm having a wide reputation would dare to venture on the market with such a high class product as this machine. The same skill which has created PIERCE ARROW CARS and PIERCE BICYCLES has produced the PIERCE VIBRATIONLESS MOTORCYCLE. The firm which has built up its reputation on Pierce products now stakes that reputation on the Motorcycle. The mechanical superiority of this motorcycle over every competitor is appareat to everyone, but we shall be glad to send Booklet C describing the machine more fully.

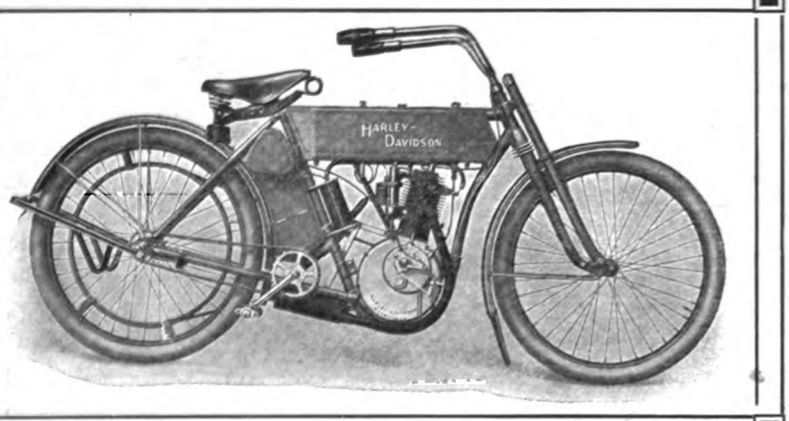
We invite correspondence from every dealer. ¶ As a rider you will own a Pierce sooner or later,—why not now?

WE SHALL EXHIBIT AT THE MADISON SQUARE GARDEN SHOW, SPACE No. 538.

THE PIERCE CYCLE COMPANY

1-22 Hanover Street, Buffalo, N. Y.
DENVER and OAKLAND

Manufacturers of the Celebrated Pierce Bicycles.



IT REQUIRES

No Diagrams

AND

Few Words

TO PROVE THAT THE

HARLEY-DAVIDSON

is the motorcycle that made them all "sit up and get busy." It is the direct cause of the improvement of quite a few other brands of motorcycles, but, despite the fact, in 1909 the Harley-Davidson will be as far ahead as ever. It will set the pace, as usual.

THERE IS NO MORE DESIRABLE AGENCY TO BE OBTAINED IF WE ARE NOT REPRESENTED IN YOUR TERRITORY WRITE US

Harley-Davidson Motor Co., Milwaukee, Wis.

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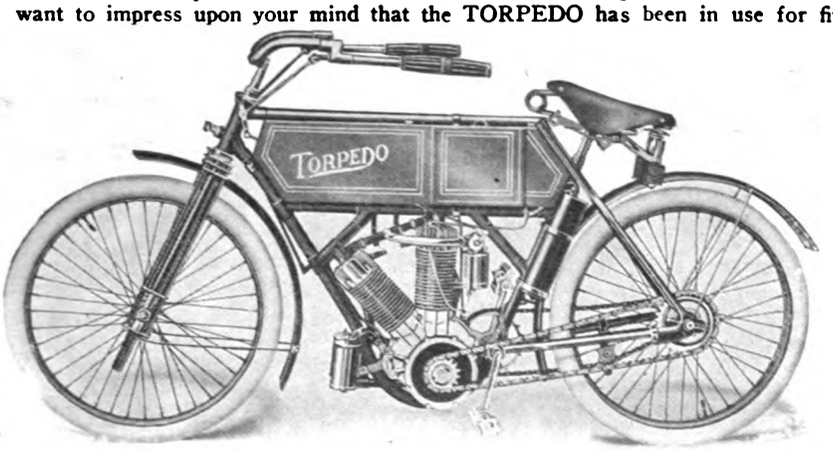
Have You Ever Stopped to Consider

that the TORPEDO is from one to two years ahead of other makes? If not, compare the different makes with the TORPEDO and you will see that the TORPEDO has improvements that others have never thought of. We also want to impress upon your mind that the TORPEDO has been in use for five years and there has never been a second-hand TORPEDO on the market—something worth considering before you place your order for anything but a TORPEDO.



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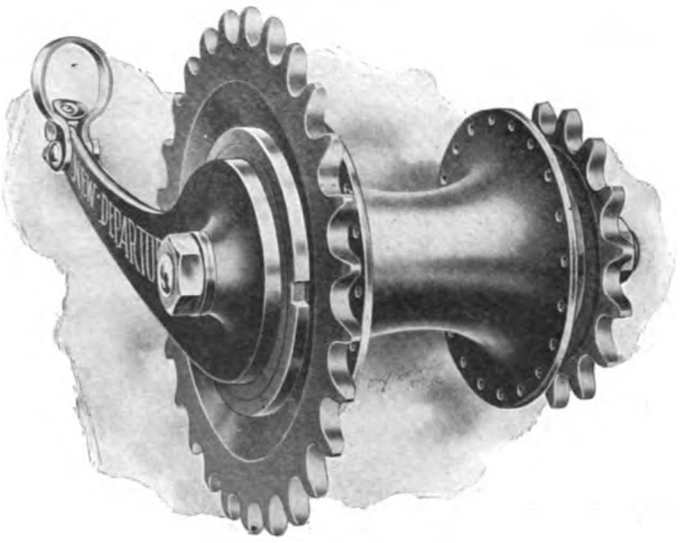

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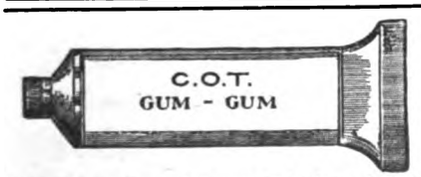

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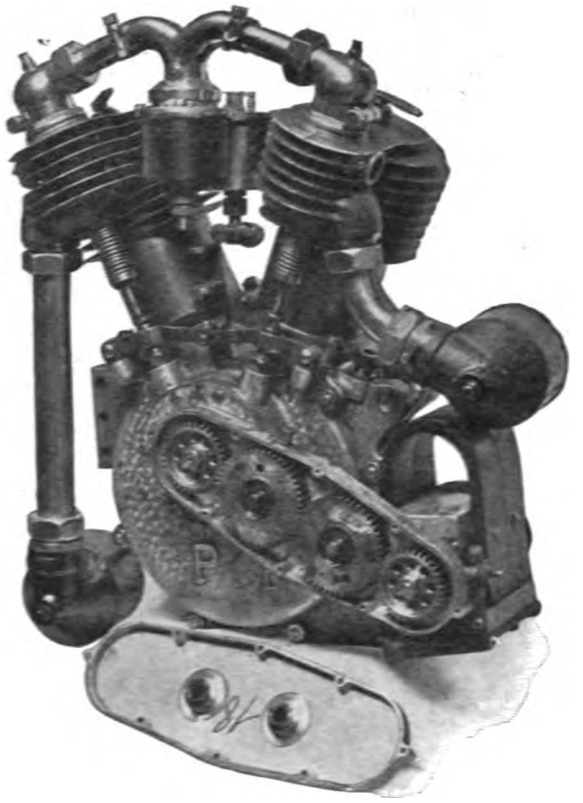

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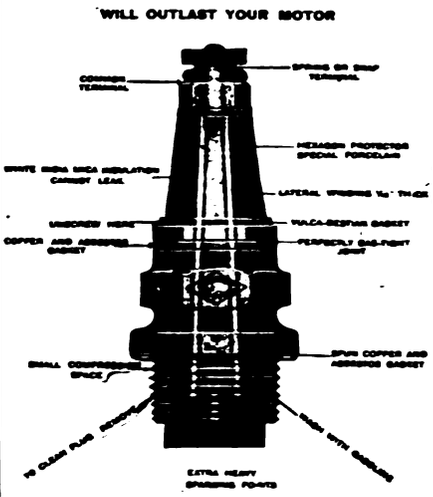

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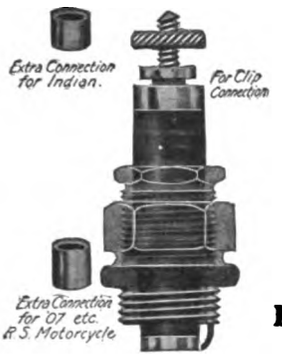

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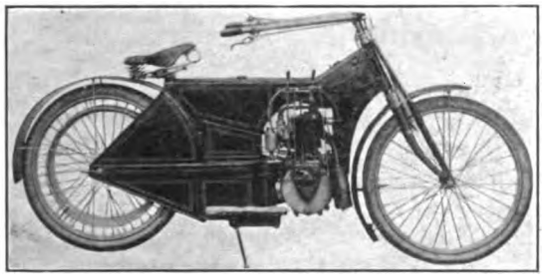

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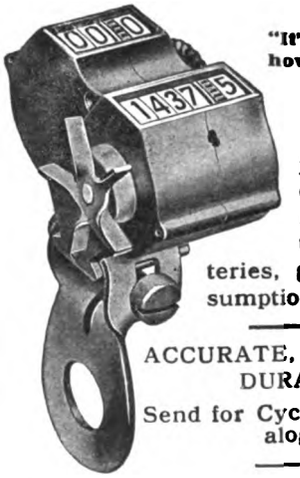

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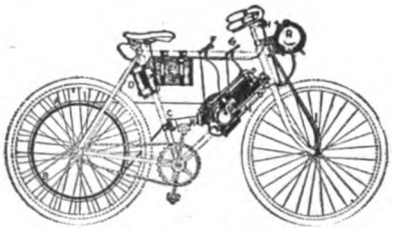

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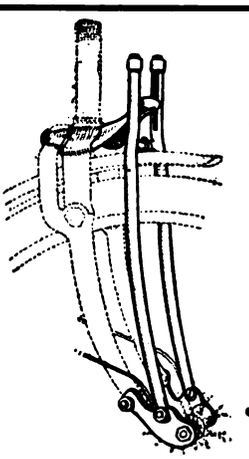

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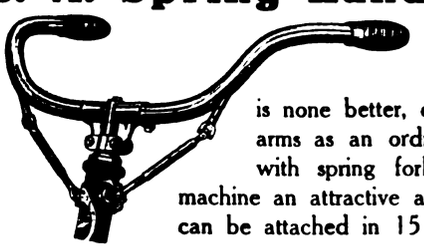

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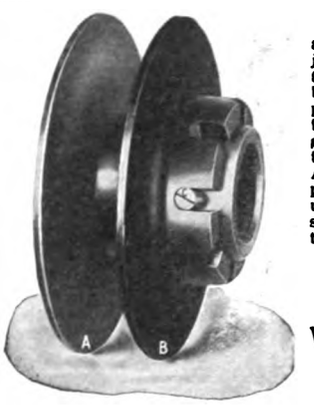

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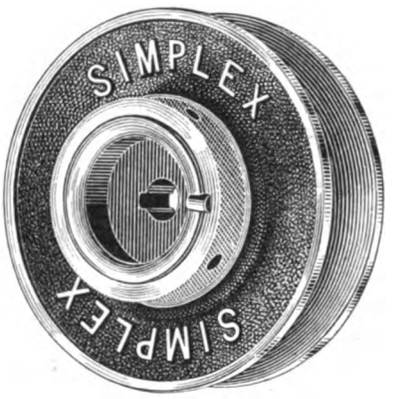

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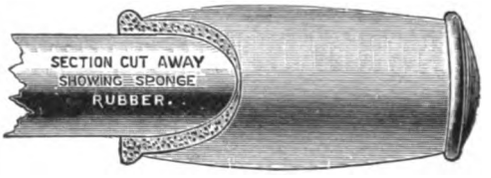

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Vol. IV. No. 2 Jan. 15, 1909

PUBLISHED BY THE MOTORCYCLE PUBLISHING CO., 299 BROADWAY, NEW YORK CITY

CHAIN VS. BELT

General Discussion of the Two Forms of Transmission, With Many Practical Hints

By R. H. NICKERSON

MANY hours of discussion—I had almost said useless discussion—have been spent over the advantages of chain over belt drive transmission, and vice versa. Probably no other one subject has raised so much controversy among riders, and just at this time, when we see this year's models of machines that have been heretofore exclusively chain driven fitted with belts at the buyer's option, it is not out of place to again go into the matter. Both belt and chain have good points, many of them, also some weaknesses. It is the object here to show the characteristic points of each system, and not to say that this or that "is best." In making his choice each rider must carefully consider his own requirements, and then buy what he feels will best fill the bill.

The flat leather belt in many cases is badly overloaded, being altogether too narrow to transmit the power, and is often badly abused. In the early days of motorcycling, the belt got a bad setback by the failure of the narrow, flat belts and the small, round belts which were then much used. Many otherwise good machines were condemned for this reason alone. A rider once showed me, with much pride, a conversion he had made on a 4-h. machine. This was one of the first models of that power, and was a very satisfactory machine in every way except the belt, which was one inch wide, and made of common oak tanned leather belting.

The rear frame was altered to accommodate wide-faced pulleys, and a two-inch belt was fitted. The idler was retained and I was advised that it was very useful, as on long rides the tension could be adjusted, whenever required, and this often saved a stop that would otherwise be unnecessary. This rider had a twin brother who owned a similar machine, which was also converted, and together they rode about for business, sometimes more than a hundred miles a day. In those days spark plugs, batteries, spark coils, cylinder oil and belts gave plenty of trouble, and it was common practice for these gentlemen to tow each other home at times when the one-inch belt showed their weaknesses.

Later, another rider showed me a 4-h. motorcycle of the same make as that of the twins, with a V belt, which was also of his own fitting, and his remark that he "forgot all about the belt now" was very true, for I have ridden miles in his company and he has had very little belt trouble. Another conversion was in the case of a chain transmission to V rubber belt. The chains ran about 800 miles each, and were patiently nursed, to keep them up to their work. The rider bought chain after chain, wore them out and threw them away, until the chain bill got to be plenty large enough to notice. This experience extended through two seasons, and was most discouraging. By altering the rear frame, fitting V pulleys and an imported rubber belt, this machine proved much more satisfactory.

The rubber belts would last from 130 to 1,500 miles, and the tires, which with the chain drive only lasted one season, were still good at the end of the third season for several hundred miles. New bushings were fitted to this motor every year when chain transmission was used, but now it is ready for its fourth season on the set of bushings that were fitted at the same time as the belt. While using chains on this machine, the slip sprocket was very carefully adjusted to just carry the rider over the hills, and also carefully lubricated to prevent undue wear; but seemingly to no purpose, as the wear on the tires was excessive.

Once, on a tour, I met a brother motorcyclist (all motorcyclists are brothers) who kindly rode many miles with me to direct me over a strange road. His machine had carried him thousands of miles and was fitted with a chain drive. This conversion was the result of unsatisfactory experience with a one-inch leather belt. The chain was very wide and the sprockets very large, so as to give a fast running chain. No extra effort had been made to reduce the weight of the new parts, for, as my friend said, and also demonstrated, "She's got plenty of power to climb all the hills around here," and there were some prominent knobs in that viciinty, too. When asked about the wear of the back tire he said that one season was the life of that. No slip sprocket was fitted.

Another improvement to this machine was a mechanically operated inlet valve, and an improved carbureter, both of the owner's design and manufacture, and they certainly did operate fine. As these last two improvements were fitted before the chain the increased power derived from their use may have had something to do with the failure of the belt, and also with the wear on the back tire.

Another chain drive was improved by replacing the one-inch pitch block chain, one-quarter inch wide, by a roller chain of three-quarter pitch, one-half inch wide. The rear frame was altered and new sprockets supplied to fit the chain. This outfit was far more satisfactory, as the wear of the chain was less, due to the added length of the chain rivets and the action of the rollers, therefore less adjustment was required and the weight of the chain kept it on the sprockets, which did away with the idler which was necessary with the smaller chain.

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A very cheap and effective transmission was used by the writer before the days of mineral-tanned leather and imported rubber V belt. A sprocket was fitted to the motor, replacing a flat flanged pulley. The pitch diameter of this sprocket corresponded to the diameter of the motor pulley. The rear belt pulley was covered with leather and turned true, the side flanges projecting about one-eighth inch above the leather face. A one-quarter-inch bicycle chain was then placed on the sprocket and the rear pulley, in the same position the flat belt had been. A larger sprocket was also fitted to the frame, with clamps, as an idler to carry the chain up over the chain stay of the frame, and encircle about three-quarters of the circumference of the rear pulley. This idler was adjustable from the saddle with a thumb screw, permitting the chain to have a limited amount of slip on the rear pulley, and operate in the same manner as a slip sprocket.

This transmission was greatly enjoyed by the writer for about two months, when along came a rider who wanted the machine on sight, and as he paid the price, I sent the whole outfit to him just as it stood. He wrote me after three months that the chain belt was giving great satisfaction, but did not mention the condition of the back tire. I have since learned of several cases where this transmission has been used, both in this country and abroad.

These several cases indicate that a stronger transmission than originally supplied by the makers was found necessary by the riders, and was worked out by each in his own way, depending on his knowledge and facilities. The flat leather belt on a motorcycle is subjected to the injurious action of water and dust from the road, which tends to alternatively soften and harden the leather, causing the surface to crack in innumerable places. These cracks slowly but surely deepen by the bending action over the motor pulley and eventually the belt breaks off at one of these cracks.

Another agent of destruction is the heat of friction between the belt and the motor pulley. A small quantity of water spattered on the belt, from a pool along the road, may cause the belt to slip, and the heat of friction will generate steam in the leather that is very injurious. The heat without the steam is bad, but not as penetrating as the steam. The formula for machinery belting does not apply to motorcycle belts very well, unless the width is doubled, which appears to be the practice of most builders of this type of transmission.

If a flat leather belt is too narrow to give sufficient surface on the motor pulley, it must be kept very tight by an idler or by drawing the pulleys apart, which in either case produces excessive friction on the motor and wheel bearings, causing them to absorb power, if not to overheat, or seize, which has happened. Any type of idler, although a simple device for tightening the belt, will lend its aid toward destroying the belt by the slight friction on the reverse side from the pulleys, and also by the bending action necessary to hold the belt up to the pulleys. This reverse bending action, added to that of the motor and wheel pulley, nearly doubles the work of the belt, and rapidly produces surface cracks on the inside of the belt which would never be produced by the motor and wheel pulleys.

Great improvements have been made in tanning leather and in the method of fastening the several thicknesses together, also in the method of lacing belts. The best mineral tanned, double leather belts of to-day will transmit 3 or 4-h., run a whole season without an idler and give very little trouble by slipping if the motor pulley is covered with leather. By a simple arrangement of frame an endless belt can be applied. This overcomes all trouble with any belt fastening. One of the fastest and most powerful American motorcycles is equipped with a leather V belt, of similar construction to the British Watawata, with a common wood screw for a fastener; it gives splendid satisfaction. The imports of rubber V belts are now so plentiful that this form of transmission is sure to receive a good tryout this coming season.

Many of the most successful chain transmissions consist of two chains from the motor to the rear wheel. One of these chains transmits the power from the motor to the countershaft, and the other from the countershaft to the rear wheel. The rear chain, being the longest, is interchangeable with the pedaling chain on the opposite side of the machine, and an occasional interchange is necessary if the rider wishes to prolong the sweet running of this transmission. With careful adjustment and regular lubrication every 500 miles this chain transmission has given some fine service. It is neat, compact, allows a narrow rear frame, and is highy efficient before wear takes place.

The short motor chain wears very rapidly, and a new one is the only effective remedy, as the limit of adjustment is very quickly reached. When applying new chains it is also advisable to fit new sprockets also, as no chain will run well or give satisfactory life on partly worn sprockets. Nothing but new chains and sprockets, with perfect adjustments, will run perfectly. The smallest amount of wear of either chain or sprocket changes its pitch. The chain will then ride up on the sprocket teeth, seeking a new and larger pitch circle, on account of the longer pitch, or distance from link to link, of the chain.

The writer's experience indicates that a chain wears more than it stretches. This condition leaves the chain unsupported between the teeth of the sprocket and also tightens the chain. A novice who attempts to adjust a chain in this condition will find he is "up against it," and that the only thing he can do is to let it run very slack. He is also limited in the amount of slack, for if too slack the chain will jump off the sprockets, and is likely to do damage to the rear spokes or some other part of the transmission gear, while on the other hand, if he adjusts too tightly, a large amount of power is consumed, and unnecessary friction placed on the bearings of the motor and wheel.

Chain repairs on the road are not so easy, as many chain riders know to their sorrow. It is more trouble sometimes to get clear of a broken link of a chain than it is to overcome most any trouble that the belt is heir to. The rivets in a block chain are larger in the center than at each end, and therefore can not be driven through the holes in the side links, and as the metal of which they are made is very hard, a sharp file in skillful hands must be used to file off the burrs on one end of the rivets.

It then is another big job to get off the side link, which, even in a vise, is no easy thing to do. If the rider then has the proper repair links with him the remainder of the job is easy; but after he has the chain back on the sprockets he will find that the adjustment must be looked after, as the new links will be a different length from the old ones. If he has treated the chain with tallow and graphite before starting out he will want a box of gold dust and a large quantity of water with which to clean his hands before he continue his ride. It is sometimes more than a week before all trace of that chain repair disappears from his hands. There is no makeshift repair to a chain, no tying up with rope, wire or cord; the proper links must be used or the chain will not run over the sprockets. The new part supplied must be as perfect as the rest of the chain.

Up to the present time the rubber V belt gives the best average satisfaction on one and two cylinder motorcycles, and the growing tendency of all makers is to offer some kind of a belt transmission as an option, even if they have built chain transmissions for years. The rubber V is so little affected by water that the rider need fear no trouble in any rain through which he cares to ride. It requires no greasing or dressing of any kind, and the gasoline in the tank will clean it any time it is dirty. It can be laced with several different fasteners, including copper wire, cotton cord or a shoe or corset cord. The best fastener, however, is the metal link connection that is made for the purpose.

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In a recent article a writer stated that a new pair of tires on a chain transmission motorcycle were worn through on a trip of 650 miles. The price of one new tire would buy four new rubber belts. With the most severe use these should last two seasons, and a pair of tires should last the same time. From this it would appear that the belt transmission is the cheapest, and those who have ridden both chain and belt know that the belt is the easiest and smoothest in action.

In the 1908 F. A. M. Endurance Contest sixty-one motorcycles started in a scheduled run of 365 miles, and the results is shown in the following table: From this we deduct the following: First is shaft and bevel gear; second, belt; third, chain. It is also evident that there is a choice between the belts, and their ranking would be: First, V belts; second, flat belts.

	Transmission				
	Flat Belt	V Belt	Chain	Shaft and Bevel Gear	Total
Started	15	14	30	2	61
Finished with perfect score	3	6	5	1	15
Per cent. of starters to finish with perfect score ...	20	42	16	50	..

MOTORCYCLE VS. AUTOMOBILE

By C. V. ARMSTRONG

WHICH would you rather have? An automobile, you will say. Ahem! Yes. Give us a $3,000 wagon with money enough to run it and we will risk the rest. Of course many of us have a longing for an auto; in fact intend to get one some time or other, an inexpensive one, second hand possibly, that being about the size of our pile.

Now here's the experience of one who has had three seasons on a motorcycle and one in an automobile. The auto has not made me any more trouble or expense (being that I didn't run the auto as far) than the motorcycle, so they are even on that score.

The greatest fault I had to find with my motorcycle was its inability to extract pleasure from poor roads, and I call a road "poor" on which a cyclist will push his wheel instead of trying to ride. We have far too many strips of road of this kind around here. Now my auto can get over these roads without work or worry on my part, and it is here that it beats the motorcycle. It can also take a little baggage and three or four people beside myself, which, of course, lends to the enjoyment of the occasion. These are manifestly great advantages, and the carrying capacity, especially, cannot be overlooked by many of us. But here ends the list.

An automobile isn't much different from a horse and wagon, after all, only it goes faster, and the horse is absent. Now, most of us ride for pleasure or at least try to get what pleasure we can out of it; and let us see how we get it. It is in change of speed and change of scenery. Of course the scenery side of it is an attribute of most any old kind of locomotion, but the ability to change our rate of travel as we choose belongs to the automobile and motorcycle; and to enjoy a ride we must vary the pace, for it soon becomes monotonous to travel at the same rate all the time even if it is fast. A motorboat soon gets tiresome because of its regular speed as much as for anything else. How much does one enjoy the speed sensation when looking out of the window of a railroad train? But if we climb out on the crossbeam in front of the engine things are very much different. There we see all there is to be seen, and most likely get our full of "speed." When in the car we see so much beside ourselves that is in motion that it spoils the fun of speed for us. When on the front of the engine there is not much in sight that is moving with us and we get the full view.

Now, riding in an auto is too much like riding in the railroad car, and on the motorcycle it is like riding in front of the engine. The auto is too big; in fact, the rear seat isn't unlike that of an electric suburban car. Of course the front seat is better, and I notice it is there that most people like to ride when they have their choice. On the motorcycle the chances are that you weigh more than your wheel does. It isn't big enough to drown your presence with its own, whereas a person feels insignificant in a big automobile. Another thing I like about a motorcycle: When I open the throttle it seems also to yank me along at first, it gains speed so fast. The ordinary powered automobile cannot do this. There's too much of it for the engine to pull. And I like to go up hill. It gives me a thrill as I open the throttle at the foot of a grade to feel my machine head into the wind and on and up till I reach the top only to be sorry that I am there so soon. I can go up hills with my auto, but it doesn't begin to feel as light under me as does my motorcycle. It's fun, too, to come up with an auto on an up grade and go sailing by them most likely to lose them entirely.

I remember once, when passing a big auto on an up grade, of losing my cap. The autoists began to laugh, and I thought for an instant my little game was up; but my wife succeeded in catching my cap (my machine is a tandem with lady in rear on drop frame), and on we went over the hill and left them. It's the dear old motorcycle for mine, boys (and girls, too,). Those who want to can ride their big wagons, but one year in an auto is enough for me. All hail to the two-wheel steed! And the good old summer time!

PROVIDING the stock touring car race is held in Savannah, Ga., in the spring, it is proposed to hold as a curtain raiser to the event, a motorcycle race of 250 miles. This contest will be held on the ten-mile course over which the light touring car race was run last fall. The race will be held on the day before the stock car event, and a large number of riders and machines are expected to enter. The contest will be started with one-minute intervals. The road has but four turns and the highest possible speed of the motorcycle could be sustained throughout. The turns are well banked and can be taken at top speed. The proposition is being considered favorably by members of the Savannah Automobile Club and city officials.

WALTER COLLINS, the crack Indian rider, of San Francisco, has challenged Frank Karslake, the Curtiss rider, of Oakland, Cal., to a race to Fresno and return, a distance of four hundred miles, to take place March 1. Karslake has accepted, and friends of both parties are looking forward to some fast riding. There has been a good deal of rivalry between these two boys. Collins has always held the honors on the track, while Karslake has nearly always won the endurance runs and reliability contests. Both boys have been over the road to Fresno, Karslake winning the last Endurance Run with a score of 975 points out of a possible 1,000, and he maintains that he and his machine are better able to stand the pace than Collins and his Indian.

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JOSEPH DE SALVO AND N. C. ANDERSON

CHICAGO'S FIRST 1909 RUN

THE honor of completing the first motorcycle run of 1909, so far as Chicago and vicinity is concerned, belongs to Joseph De Salvo and N. C. Anderson. The Chicago Automobile Club held a century run over the famous Chicago-Elgin-Aurora course, leaving the Automobile Club House a minute after midnight. De Salvo and Anderson were the ony "two wheelers" in the run.

The roads were dry and hard, but badly cut up, making fast riding practically impossible. Their worst trouble at the start lay in the impossibility of keeping their lamps lighted. The water in the generators froze up, even with the generators in operation, and finally, when alcohol was obtained to mix with the water, even the alcohol solution, made as strong as it could be made and still be effective, congealed sufficiently to fail to feed. They therefore had to ride without lights from midnight till the "cold gray dawn of the morning after."

To add to their joys, De Salvo hit a sharp stone and wrecked his rear tire to a degree that would have put a less nervy rider out of business. He, however, replaced the tube and by a liberal wrapping of tire tape was able to proceed, though the frozen roads wore off the tape so that it had to be replaced frequently before the finish of the run. The combination of deep ruts and darkness was also responsible for the breakage of three pedals before daylight arrived.

Such conditions put speed absolutely out of the question; in fact it was dangerous to attempt to ride even fast enough to keep the motor running properly. But they stuck to their self-imposed task, checked through Elgin and arrived at Geneva and were checked there by N. H. Van Sicklen at 7.15 a. m. They checked in at Aurora at 8 o'clock; here they laid over for breakfast and a general thawing out. The run from Aurora to Chicago was made without particular incident, and they arrived at the Automobile Club at 10.30, well ahead of a number of the automobilists participating in the run. As both De Salvo and Anderson rode Excelsior autocycles, this gives the Excelsior credit for the first local century to be finished in 1909, and possibly the first to be finished anywhere in this country.

Nothing daunted with their trip of somewhat over a hundred miles, De Salvo and Anderson started after the 2.50 club scorchers who held their annual run over the historic Pullman course, leaving at 10 o'clock in the morning. While the 2.50 run has always been a bicycle proposition, half a dozen motorcyclists participated in this year's run, three of whom, J. C. Bayne, A. G. Lyon and F. H. Wilson, rode Excelsiors. As they started at 10 o'clock, half an hour before De Salvo and Anderson got in from their century grind, the latter riders, of course, saw nothing of them until they arrived at Pullman, but they had the satisfaction of covering the route, if not under the official schedule.

NINE members of the Indian Motorcycle Club of Chicago, led by John T. Fisher and C. E. Jenkins, accompanied the remnants of the Old Guard bicycle riders on the New Year's run over the Pullman course on New Year's morning. Fred Nelson and a dozen bike riders, with the motorcyclists, started from Thirty-fifth street and Grand boulevard at 10.15 o'clock and covered the twelve miles to the Florence Hotel, Pullman, in scorching time. Fisher was the first to cover the route.

A VERY up-to-date Santa Claus visited San Diego, Cal., last Christmas. As far as known, this is the first time St. Nick has ventured out on a mount of this kind; though in a climate such as San Diego enjoys he must have felt much more at home in a saddle than behind his flying reindeer. This particular Santa represented a local sporting goods house, and he was mounted on a Thor. He created considerable amusement for the children, shoppers and sightseers.

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THE GARDEN SHOW

THE great automobile, motorcycle and accessories show will open at Madison Square Garden on January 16th and close on the following Saturday, January 23rd. A total of nearly three hundred different displays, in exact figures just 294, is shown by the official list of exhibitors at the ninth national show. This is about two score more than at any previous show, and to accommodate them every available foot of floor space in the Garden has been utilized.

As in previous years, this show, under the auspices of the Association of Licensed Automobile Manufacturers, has been departmentized, so that visitors may find more readily those things which most interest them. The standard makes of licensed cars will be mostly on the main floor, of course, but there will be car exhibits also on the elevated platform overhanging the main floor, in the cafe off the Madison Avenue entrance, and in the basement.

The electric vehicles will be grouped in the cafe, or "exhibition hall," as it is called, and the commercial vehicles in the basement. There will be forty-seven exhibits of complete cars, besides 221 exhibits of accessories and parts and twenty-six motorcycle exhibits. The motorcycle exhibit will be the first complete one ever shown, being several times larger than at any previous show and suggesting impressively the advance that has been made in this trade.

All of the exhibits in the motorcycle section will be found in the basement, grouped in the center aisle, or "Tunnel" as it is called by the show managers, and extending from this aisle around the Twenty-sixth Street side of the building as far back as Fourth Avenue. In fact, with the exception of the rathskellar, which will occupy one corner, the whole eastern end of the basement will be nearly all devoted to motorcycles and their accessories. The complete list of exhibitors in this section, and the spaces they will occupy, is as follows: 529, Merkel-Light Motor Co.; 531, Consolidated Mfg. Co.; 532, Excelsior Supply Co.; 533, N. S. U. Motor Co.; 534, MOTORCYCLE ILLUSTRATED; 535 American Motor Co.; 536 Hendee Mfg. Co.; 537, F. A. Baker & Co.; 538, The Pierce Cycle Co.; 539, Bicycling World Co.; 540, Ovington Motor Co.; 541, Reading Standard Co.; 542, Aurora Automatic Machinery Co.; 543, Hornecker Motor Mfg. Co.; 544, Harley-Davidson Motor Co.; 545, The Auto-Bi Co.; 546, Thiem Mfg. Co.; 547, Motor Car Equip. Co.; 548, Walton Motor Co., Inc.; 549, Mesinger Mfg. Co.; 550, G. H. Curtiss Mfg. Co.; 551, Eclipse Machine Co.; 552, New Era Gas Engine Co.; 553, Reliance Motor Cycle Co.; 554 Crouch Motor Co.; 555, The Persons Mfg. Co.

OUTSIDE of the exclusive motorcycle section there are many firms located at various parts of the building which will have motorcycle products on view. All these are sure to interest motorcycle riders. No doubt they could spend many hours in the Garden getting posted on what is offered for 1909. List of firms not exhibiting in the basement is as follows: Ajax-Grieb Rubber Company, tires; Badger Brass Manufacturing Company, motorcycle lamps; Baldwin Chain Manufacturing Company, chains; Bosch Magneto Company, magnetos.

Herz & Co., magnetos; Jeffery DeWitt, spark plugs; Coes Wrench Company; Columbia Lubricants Company; Connecticut Telephone and Electric Company, coil; Adam Cook's Sons, lubricants; Diamond Chain and Manufacturing Company, chains; Diamond Rubber Company. tires; Joseph Dixon Crucible Company, graphite; Eastern Carbon Works, batteries; G-L Economizer Company, fuel economizing device; Fisk Rubber Company, tires; G & J Tire Company, tires; B. F. Goodrich Company, tires; Goodyear Tire and Rubber Company, tires; A. W. Harris Oil Company, oils; Hartford Rubber Works, grips and tires; Herz & Co., magnetos; Jeffery DeWitt, spark plug; Jones Speedometer, speedometers; K-W Ignition Company, batteries and plugs; Lavallette & Co., magnetos; Manufacturers' Foundry Company, castings; C. A. Mezger, spark plugs.

Morgan & Wright, tires; A. R. Mosler & Co., spark plugs; National Battery Company, batteries; National Carbon Company, batteries; Never Miss Spark Plug Company, spark plugs; New Departure Manufacturing Company, coaster brakes, ball bearings and bells; Pittsfield Spark Coil Company, ignition specialties; Remy Electric Company, magnetos; Republic Rubber Company, tires; Rose Manufacturing Company, lamps; J. H. Sager, spring forks; Shelby Steel Tube Company, tubing; C. F. Splitdorf, spark plugs; Standard Leather Washer Manufacturing Company, repair patch; Veeder Manufacturing Company, odometer; Warner Instrument Company, magnetos; Whitney Manufacturing Company, chains; Empire Automobile Tire Company, tires.

PALACE SHOW A GREAT SUCCESS

IT was both surprising and gratifying to the motorcycle enthusiasts who visited the automobile show at the Grand Central Palace in New York City, which closed on January 7, to see the large number of accessory exhibitors who were showing devices for motorcycle use. Though there was not a single motorcycle in the Palace, the rider who spent a few hours there was well repaid for his time. Not only the tire manufacturers, and other concerns that have been identified in the past with the motorcycle industry, but many new firms had fittings in view that appealed directly to the rider.

Among the new fittings were a speedometer, an electric horn, several carbureters, a new gas lamp and separate generator, a leather tire, and many ignition specialties.

The G. & J. Tire Co. had all of its several types of motorcyle tires, also inner tubes on exhibit, as did Morgan & Wright. The latter were showing the special racing tire that was used in the championship races at Morris Park last fall. The Pennsylvania Rubber Co. had one motorcycle tire on view, and the Ennis Rubber Mfg. Co. also had one single clinch tire in its booth. The B. F. Goodrich Co. and the Goodyear Tire & Rubber Co. had only automobile sizes at the Palace, but both will have their motorcycle tires at the Garden. The Healy Leather Tire Co. showed a 26x2 1-2 inch leather, studded tire that looked capable of withstanding all kinds of hard usage. In the tire line also was the Woodworth tread, shown by the Leather Tire Goods Co. This is a studded tread, made to fasten on over an ordinary tire.

The Badger Brass Mfg. Co. showed a new Solar separate lamp and generator that looked very good. It was strong and substantial, but not over heavy. The bracket was especially strong. The outfit is gotten up on the same style as Solar automobile lights, and is sure to become popular.

Three motorcycle speedometers were shown. The "Every Ready," the Jones and the Warner Autometer. This latter was brand new; there was neither price nor catalogue to be had. The instrument is a miniature size of the automobile type.

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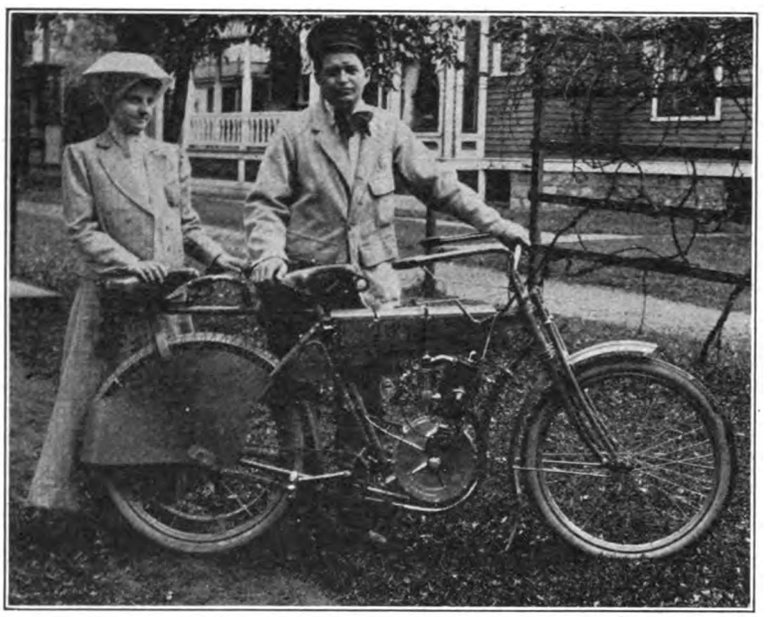
FUN ON A TANDEM

Story of a Summer's Sport at a Minimum of Expense

By HARRY D. FOSTER

FIFTEEN hundred miles on a motorcycle, over the beautiful highways and through the charming scenery of western New York, is a most delightful experience, wherein realization far exceeds anticipation—an exception, perhaps, to the rule. Having covered more than that distance with a new 1908 Harley-Davidson single-cylinder machine, I unhesitatingly state that it is the most satisfactory machine I have ever owned. After having purchased it, I secured an additional saddle and rigged out a tandem attachment which worked perfectly, and two passengers were carried as easily as one.

The pleasures of motorcycling are many and varied. The past season the weather was ideal and the roads in this section of the state were in very fine condition. I have taken many trips in various directions, and enjoyed many interesting experiences, but have always ridden for pleasure and never endeavored to make time, and yet on one occasion, while riding on the new state road leading from East Pembroke to Batavia, I discovered that I had covered a considerable distance at the rate of fifty miles an hour.



MISS WATSON, MR. FOSTER AND THEIR TANDEM.

It concerns not the tale how it came to pass that one bright day, just at the break of dawn, Miss Laura Watson and myself were off for the summer vacation at Sodus Bay, a delightful summer resort on the shores of Lake Ontario. The rest of our party preceded us by rail. The distance from Batavia to the Bay is eighty miles, through a very beautiful country, and we reached our destination shortly after the noon hour. The roads to Rochester and on through the towns and villages to the northeast were excellent until Union Hill was reached, after which we experienced sand several inches deep the remainder of the journey. We hied to the old sidepath alongside the road, which had grown to tall weeds that would strike the handlebars of the machine, and completely obscuring our view of the path. There was constantly danger of striking stones, washouts and other obstructions, and it was here we experienced a minor accident. Suddenly we were spilled in the sand one mile south of Sodus village, and as a result suffered the loss of a piece of a Merry Widow bonnet, which was purchased at a cost of twelve cents when new, especially for the trip, and I sustained bruises which I nursed for two days after reaching the cottage. After securing a supply of liniment at the village drug store we forged on at half speed for the Bay. One of the interesting items in connection with these trips is the actual cost, which is ridiculously small. My actual expenditure for the transportation of two persons this eighty miles was thirteen cents. Upon leaving Lake Bluff, I rode twelve miles to get three, around the Bay over rough and muddy roads and through woods for the purpose of avoiding the sandy tracks. We left Sodus Point, at twelve o'clock, three hours late, and boarded a trolley to Union Hill, where the state road begins. On the way from Union Hill to Rochester we rode for several miles beside a street car of the Rochester and Sodus line. Suddenly we passed over a bad spot in the road. The people on the car were soon yelling to me, "You have lost a package on behind!" and supposing they referred to a bundle tied to the rear seat, I gazed backward, surprised to find Miss W. trudging down the hill many rods behind, much to the amusement of the passengers. We stopped in Rochester and also at the State Fish Ponds at Caledonia, reaching Batavia at dusk.

There have been many other enjoyable trips. I might mention one Sunday in October when we rode from Batavia to Buffalo and return on the state road, a distance of eighty miles. The total cost of the trip, including gasoline, oil and repairs was exactly twelve cents, or six cents a passenger.

Another pleasant ride was taken one day later in the fall which carried us from Batavia to Lockport to Tonawanda, to Williamsville, to Buffalo, to Batavia, to Le Roy, Lime Rock and back to Batavia, a distance of one hundred and thirty-three miles. We reached home at 4.30 p. m. without experiencing the least fatigue. These are but a few illustrations of the many charming trips that one can enjoy in traveling thousands of miles through the country on a motorcycle.

I never experienced any trouble with the machine, and very seldom were repairs necessary. There was no walking or climbing hills, as my H-D carried two passengers over all hills in this section of the state. The actual cost of the entire fifteen hundred miles I rode last year was less than three dollars. The machine was equipped with G & J tires, and I had not even a puncture in fifteen hundred miles, truly a remarkable record, to my way of thinking.

THE annual election of officers at the meeting of the Detroit Motorcycle Club last month resulted as follows: President, Roy Hunter; Vice-President, J. I Butler; Recording Secretary, Leo Banker; Financial Secretary, Fred Kicherer; Treasurer, J. F. Adcock; Sergeant-at-Arms, Dow Clark; Captain, W. E. Leake.

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ENGLISH NOTES

By B. H. DAVIES

LOOKING through your accessory advertisements and catalogues I note the absence of four of my most valued companions on every run. One is a small pocket soldering outfit, which sells over here at about a dollar, put up in a neat tin case. It consists of a miniature iron and a spirit blowpipe for heating same, with a crutch to support it in use, complete with flux and solder. It has often proved very serviceable to me on tour, and works out considerably cheaper than going to a repair shop. Another is a pocket tool kit, consisting of a leather case no bigger than the average letter wallet. It holds a belt punch, tiny pliers, wrench, screwdriver and file, plus a carbureter broach, and it often saves me opening up my big frame bag. A third is a patent exhaust valve spring remover, which no motorist ought to dispense with. It consists of a pair of levers, opening scissorswise when a wing nut is screwed up. One lever is tongued, and encircles the valve under the spring cap, the other is flat and rests on the crank case. You then tighten up the butterfly nut, and it pushes the spring up and holds it up, while you extract the cotter pin at your leisure. A fourth is a round leather box, designed to be strapped to the carrier. It has two concentric partitions, one for a spare belt, the other for a spare inner tube, and it keeps them both as fresh as new.

1909 Big Endurance Trial.

The date of our 1909 Six-Day Thousand-Mile Endurance Trial is provisionally fixed for July 5th to 10th. It has not yet been decided on what date in September the Tourist Trophy Race will be run off on the Isle of Man, nor have the conditions been revised. We should all extend a very hearty welcome to any American riders and machines who cared to come over for either or both of these events, and, thanks to President Ovington's tactful ministration, it is highly probable a working basis will be arrived at under which American riders can compete in such events on this side without incurring any stigma of professionalism. As I pointed out, men of the highest social status figure in our trials, and it is ridiculous to suppose that many of the competitors are not the purest amateurs who ever engaged in any type of sport.

The Magneto Invasion.

I notice you fellows are still fighting a little shy of the magneto, same as we did this side. It is booming great guns over here now, and by the time another couple of seasons have gone, I reckon there won't be a single sample of coil ignition at our annual show. I have had no less than eight new magnetos sent me for press reports in the last fortnight, and I am pleased to say they are being built considerably lighter than was the case last year, while in many instances they are a good deal simpler. Some of the latest patterns can be entirely dismounted with no other tools than a small screwdriver, and even the armature can be laid bare to view in a few seconds. In addition, the contact breaking devices are in the majority of cases most ingeniously safeguarded from wear, and the condensers are more efficient, so that it should soon be a common thing for a motorcyclist to get through a 5,000-mile season with no ignition troubles whatever beyond broken sparking plugs.

English Brakes.

I marveled greatly to read Ovington's plea for an extra brake, as no one over here dreams of riding a machine with a single brake, and as a matter of fact, our laws compel us to have two, though few cops would be equal to the task of settling whether the compression resistance was a brake or not. Practically every British machine has a front rim brake, though a few types of spring fork compel the secondary brake to be mounted on the rear hub. Our main brake in every instance consists of a four-inch fiber shoe, hinged on a bracket carried on the rear chain stays. It is usually set below the chain stay, and pulled up against the inner periphery of the belt rim by a long rod attached to a brake pedal mounted on the left hand foot rest. This makes an immensely powerful brake; indeed its full application will lock the wheel at a forty-mile-an-hour bat. The front rim brake is a more safe and stable affair than the similar brakes on push bikes, as the sides of the horse-shoe are prolonged below the wheel rim, and run in guides mounted on the forks, so that it cannot get askew and foul the spokes, while springs concealed in the guides pull it off when the lever is released. We only use them in emergency save-your-neck stoppages, as the rear belt rim brakes are sufficient for all ordinary purposes. The coaster brake has never been popular over here for motorbikes, probably because some of the early machines had a dub type of this brake fitted, which used to jamb up and cause us to make sudden and painful dives out over our handlebars.

Quick-Detachable Rigid Sidecars.

The rigid sidecar has always suffered by comparison with its competitors over here by reason of the fact that it took a long while to detach, and after each detachment, its proper adjustment had to be sought all over again. It has at last occurred to some sleepy genius to fit each of its frame rods with an eyebolt joint, so that it can now be whipped off in three or four minutes by simply taking out three bolts, and without affecting the adjustment of the main clips, which remain affixed to the motorbike. It is now fast making good against the flexible and castor wheel patterns.

Slush!

I have been for a ride today—two rides, in fact, and am probably one out of only half a dozen British riders who stirred out, as we've just had a blizzard, and the roads are about ten inches deep in melted snow and general mushiness. Ride number one terminated very abruptly, as the belt refused to grip at any price. Ride number two was more agreeable, as I took out a shaft driven four cylinder, and that little encased bevel rod ignored the mushiness, and kept revolving sturdily like a real good 'un. There is no doubt the belt and the chain are dead off as compared to the shaft drive for real mud plugging, and I fancy the machine de luxe of the near future will have shaft drive as a standard. It seems rather one-eyed to design all the other details of a machine to be weather-proof, and leave the transmission vulnerable. Yet that is just what 99% of the world's motorbike makers are doing.

A MOTORCYCLE and automobile show will be held in Keene, N. H., March 2 and 3, 1909, and a number of manufacturers and dealers have already indicated that they will support it. It will be conducted under the auspices of the Consolidated Motorcyclists, of Keene, N. H., an organization composed of motorcycle riders in Keene and from neighboring towns. The Secretary is C. C. Wilber. This show will no doubt be warmly supported by local dealers, and should give impetus to motorcycling in its territory.

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NEW SIX HOUR WORLD'S RECORD

Englishman Makes Track Record of 268 Miles, 285 Yards

ON Tuesday, December 22nd, at Canning Town, O. C. Godfrey made a successful attempt to beat the six-hour record previously held by H. Martin. Godfrey's machine was the 5-h., twin-cylinder Rex which competed in the Tourist Trophy Race of 1907. It had the ordinary type of pistons, 24-inch wheels, a 2¼-inch tire on the rear wheel, and a 2-inch tire on the front. The tires were Continentals. The gear ratio was 3¼ to 1, the belt was a Shamrock-Gloria, and the ignition was by Bosch magneto. At 9.50 a. m. the timekeeper gave the word to go, and a few seconds after the machine dropped into a steady pace, from which it varied little during the rest of the long ride. At times lap after lap was covered at the rate of forty-eight miles an hour, or a lap in 25 seconds.

The day turned out fine and sunny, but a cool westerly wind swept the track. Precautions were taken against the track being wet, as the machine was fitted with a front mudguard with leather extension. Throughout the run Godfrey, although he was on his first attempt at a record ride on the track, rode most consistently, and in this he was no doubt assisted by the Jones speedometer which was fitted to his machine. His stops were for the following causes: At seventy-one miles for petrol. At 110 miles to change the back wheel—a precaution necessitated by the tire being worn on one side through contact with the surface of the track, since Canning Town track is somewhat hard on tires, on account of its small size (three laps to the mile), as against Brooklands almost three miles to the lap. Shortly after Godfrey again stopped, as he was under the impression that the back wheel nuts were not sufficiently tightly screwed up. At 140 and 206 miles he again took in petrol. At 215 miles he replaced the front exhaust valve spring, and fifteen miles further the valve broke, necessitating a stop of five minutes, which included changing the back wheel, in the tire of which a nail was observed. At 245 miles he again changed the back wheel, the tube of which had been repaired after the puncture. The tires stood up well, and the engine ran with the utmost consistency until the valve spring was replaced. The new spring, however, was a trifle too weak, so slight misfiring ensued, but not enough to prevent several laps being reeled off in 24 2-5 seconds.

The total distance covered in the six hours was 268 miles, 285 yards, as against Martin's previous world's record on April 13th, 1908, which stood at 244 miles, 1,650 yards. The following are the distances covered up to five hours: First hour, 46 miles 100 yards; second hour, 93 miles 1,200 yards; third hour, 139 miles 320 yards; fourth hour, 186 miles, 1,300 yards; fifth hour, 228 miles 1,600 yards. Godfrey also broke all previous records after 101 miles.—London *Motor Cycle*.

Talk of New Chicago Track

CHICAGO will have a board track, especially built for motorcycle racing, with the dawn of Decoration Day, if the plans of local motorcycle dealers are realized. According to the plans now in the making, the track will be one-third of a mile around and heavily banked to permit of terrific speed such as the powerful machines are capable of attaining.

The idea of building a board track in Chicago was broached by Jack Prince, who has constructed the tracks at Vailsburg and Paterson, N. J. Prince is now on his way to Los Angeles to enter upon the task of building a board track just outside the city limits. Chicago, like many of the cities on the Pacific slope, is fast warming up to the motorcycle game, and the movement leading up to the building of a race track for the two wheelers has lately been given a strong impetus. It is proposed to start work on the track in March or April, with the first speed meet scheduled for Decoration Day. Thereafter the motorcyclists will mingle on each Sunday during the summer in races similar to those now being conducted on the Coast.

Pasadena's Motorbike Fund

PASADENA, Cal., December 24.—Officers McAney and Trident, of the Pasadena Humane Society, are hoping that Santa Claus will bring them a motorcycle for Christmas. This morning the first voluntary subscription to the motorcycle fund was received, and as a result, the officers again took heart and believe that if they persevere their wish will be realized, and, instead of riding around in a carriage and paying livery bills, they will soon be mounted on a gas bike.

The motorbike fund was started several months ago and about $75 has been paid in. At least $100 more is desired before the machine can be purchased. The need of a quicker mode for traveling than a bicycle or a horse has been demonstrated time and again, and the officers believe that much better work could be accomplished if they had a motorcycle to ride.

The Pasadena officers are often called upon to answer calls in Monrovia, El Monte, Alhambra, La Canyada, La Crescenta, San Gabriel and other towns where it takes several hours to reach by cars, with a rig or on a wheel, but which could be reached in a few minutes on a motorcycle.

METZ LEAVES AMERICAN MOTOR COMPANY

C. H. METZ, for three years mechanical head of the American Motor Company, Brockton, Mass., announces his retirement from that firm. He has purchased the Waltham Manufacturing Company's plant, at Waltham, Mass. This concern makes the Orient automobile, and by his new acquirement Mr. Metz becomes the largest individual operator of an automobile plant in America, the capacity of the Orient factory being 5,000 cars a season. Since 1882 Mr. Metz has had experience along the inventing, manufacturing and selling end of bicycles, motorcycles and automobiles. He is a man of undeniable inventive talent, as well as a practical man. He started in 1882 as an enthusiastic rider of the high wheel bicycle. In 1885 he was the champion racing man in central New York State, his home being in Utica. In 1886 he commenced to manufacture bicycle attachments. In 1891 he led the crusade for lighter bicycle construction; in 1893 he organized the Waltham Manufacturing Company, makers of the Orient bicycle, which concern he has just bought. And he increased their output in three years up to 4,500 machines per annum, while in 1897 the total number of machines manufactured was 15,000. In 1898, the concern started to manufacture automobiles, and also, for the first time, produced a motorcycle. In 1902 they built the Metz motorcycle, and on this Mr. Metz made a mile record straightaway of 1.10 2-5, which was an extraordinary record for those days. In 1905 Mr. Metz affiliated himself with the American Motor Company, and, the next year, marketed the Marsh-Metz motorcycles. Surely this is a fine record, and no doubt Mr. Metz will still further enhance it in his new enterprise.

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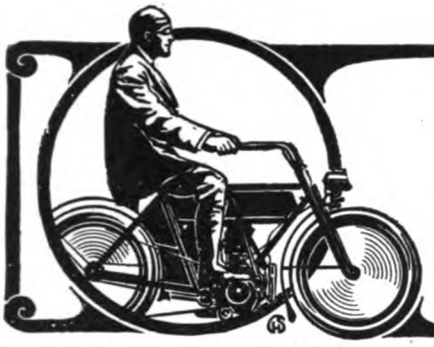

TIMELY TOPICS

Derkum Regains His Nerve

TO prove that his failure to lower the world's record for 100 miles at the Derkum benefit meet last November was not due to the loss of his nerve, Paul J. C. Derkum turned Ascot Park track in less than fifty-five seconds on Monday, December 14, in spite of the fact that it was full of small ruts left by the rain. Derkum has maintained all along since the benefit meet that the big 7-h. power machine with which he had hoped to lower all existing records cut itself out—that is, failed to explode—after a speed of about fifty-seven or fifty-eight seconds to the mile had been attained. Others—and among them were some of his own best friends—claimed that he had lost the "dare devil" nerve he once possessed and had shut the big machine off on the curves through fear of going through the fence.

On the fourteenth a little party of eight composed of such mechanics and riders as "Billy" Hoag, Al Earhart, Fearless Balke, Young Seymour, J. Arthur Scott and Derkum himself, took the motor out to Ascot to try it. All of the riders were given a trial around the track and none of them succeeded in keeping the twin cylinders shooting any more successfully than did Derkum himself. The result was exactly what Derkum had predicted. The heavy speedster took to the track like a duck to water. It did not miss a shot on the first whirl around and then, with flying start and a signal to go, Derkum let her out. He turned the next mile within fifty-six and the next under fifty-five seconds, coming home on the fourth time around completely vindicated. Balke and others then took the machine and had precisely the same experience—not a miss on the entire mile.

Wanted Forty Cents Worth

HERE is a story that comes close to equalling that old chestnut "Give me a twenty-five cent can of good, strong compression;" and it has the advantage, moreover, of being fresh from the jokesmith's. A rider walked into Widmayer's store a few days ago, and the following conversation took place:

"Do you keep batteries?"

"Yes sir, we do."

"I mean the kind in a tin tube, to fit an Indian."

"Yes."

"All right, give me a forty cent set."

"The Indian tube set costs two dollars; we have none for forty cents."

"I am stuck, then. My batteries are dead. When I buy a new set they generally register twenty amperes, and they cost, as you say, two dollars. That is ten cents per ampere, and as I have only forty cents with me, and need only a couple of amperes, a four ampere battery for forty cents is all I need. Besides, I am going to lay up my machine for the winter soon, and will not want to use it till next spring."

Widmayer hunted up some old cells that registered five amperes; the customer laid his forty cents, mostly in pennies, on the counter, and went out delighted with his bargain.

Jersey Justice Working

ONE grafting justice of the peace, Conrad Waldvogel, of Atco, N. J., has been brought to book. He was accused of having failed to turn in to the state treasury fines collected from motorists for alleged violations of the state automobile law. Confronted with the proof he pleaded guilty. His sentence was suspended to give him an opportunity to make restitution.

Pleased with this victory C. Douglass Bartlett, counsel for the Quaker City Motor Club, announces that the records of every like official in the eastern part of Pennsylvania and in southern New Jersey will be investigated, and if any irregularities are found the office holders will be prosecuted. It is known that a great many fines collected from motorists are not turned over to the state to be used for the making of good highways. Mr. Bartlett collected the greater part of the information against Waldvogel and gave it over to Anderson Shinn, the inspector of motor vehicles of South Jersey, and the latter did the rest.

Jack Prince Has Motorcycle Bug

OMAHA, December 26.—Jack Prince, promoter and colliseum builder, was in Omaha, Christmas, for a visit with his wife's relatives. He says he is en route to Seattle where he will build a raised track for motorcycles, on which they may glide around the arena at the rate of eighty miles an hour. Jack says that he still considers Omaha one of the best sport loving communities on the map, and just to show his confidence in Omaha, will return in March to build a motorcycle track, and in the early spring will pull off some of these speedy races. Prince says he has about one hundred of the leading motorcycle racers of the country now on the Pacific Coast and after a winter's racing there they will return East. He wants to arrange for them to stop in Omaha while en route to the East and give Omaha a touch of the fast racing game.

Peculiarity of Massachusetts Law

FOLLOWING is said to be the way an act of the last Massachusetts Legislature appears in official print:

"Whoever operates an automobile or a motorcycle on any public way or private way laid out under the authority of law recklessly or while under the influence of liquor, or so as to endanger the lives or safety of the public, or who without a reasonable excuse therefor goes away without stopping and making himself known after causing an injury to any person or property, shall be punished by a fine not exceeding $100 or by imprisonment for a term not exceeding six months."

The absence of a comma at a critical point evidently gives free rein on such highways and byways as have not been laid out under the influence of liquor. A motorist will have difficulty, however, in proving such a layout, whatever appearances may suggest, and so the statute will probably not suffer seriously from the omission.

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THE NEW YORK FIELD

Review of the Importers and Agency Trade in the Greater City

THE conditions that a manufacturer faces in trying to put his machine on the market in New York City are really most surprising, to say the least. Wonder has often been expressed that more motorcycles of American make are not sold in the Greater City; that outsiders have not grasped the significance of the trend now so plainly visible in the selling end of the industry, and taken up agencies; and that the manufacturers themselves have not deemed the outlook in this city worthy of establishing selling branches if they could not market their products in any other manner. It is not the purpose here to state the reasons for this state of affairs, but simply to give the facts as they are. Sufficient to say that the manufacturer wants his machine handled by a progressive house; he does not want it shoved in a show window to keep there forever. And most of the live agents in New York are tied up with some one machine, with no desire to change.

To break into the market it seems the manufacturer must look to outsiders, that is, concerns not in the field must be seen and convinced of the money there is in the business. There is, in fact, present opportunity for but two or three new machines to be represented in New York. Probably the most interesting news in this respect is that the Ovington Motor Company will handle an American motorcycle this year, locally only.

Among the new agencies, Henry Wehman, in Brooklyn, will handle the Curtiss exclusively. Hastings and Miller, on Nassau Street, New York, will carry the Indian and possibly one other. This business has not been really started yet, though sample machines will soon be on the floor. Just what the other make of machine will be has not been decided. One other agency is to be established here between now and next Spring. It will be, too, a factor in the business in New York. Stanley T. Kellogg, the well-known Indian rider, has severed his connections with the Hendee Company, and he will handle the Excelsior in the Eastern States, that is, east of Harrisburg and north of Philadelphia, including all of New England. His headquarters will be in New York, probably in the heart of "Motorcycle Row," on upper Broadway. He will be financed by local men, now identified with motorcycling, and one other make of machine will be handled. The following concerns are now engaged in the motorcycle business in Greater New York.

George V. Lyons Motor Company

IN anticipation of a most prosperous year the George V. Lyons Motor Company has leased and moved into a large store on Broadway, near Eighty-seventh street, just next door to the one occupied last season. The new location affords more than double the amount of space of the old store, and this additional room will be utilized for storage purposes. The Lyons Company will cater especially to storage customers, with day and night service, lockers, etc. This company will also pay considerable attention to the repair business; a well equipped machine shop will be set up, where the finest repair work can be turned out promptly. In addition to the Wagner and the Minerva machines, the Lyons Company will this year import the twin cylinder Motosacoche lightweight. This little motor develops 3-h. and will drive the machine fifty miles an hour. The Motosacoche is a lightweight in every sense of the word—it weighs only eighty pounds. Ignition is by magneto.

J. F. McLaughlin

THE N. S. U. agency for New York City will continue in the hands of J. F. McLaughlin, at 206 West Seventy-sixth street, and he plans to push that machine to the front harder than ever this year. The tricar, both for pleasure and business purposes, will be one of the features of Mr. McLaughlin's campaign. He is convinced that the time is about ripe when business houses will be prepared to take up the tricar for light delivery purposes. McLaughlin will continue his repair business, and to carry oil and gasoline. He will also carry an enlarged stock of supplies and accessories, both imported and of domestic manufacture, this year.

Geo. P. Jenkins

FOR several years George P. Jenkins has been the M. M. distributing agent for New York and Long Island territory, and his store at 6 West Sixtieth street, just off Columbus Circle, has become a sort of headquarters for all M. M. riders. This is not surprising, for Mr. Jenkins is one of the most popular men in the motorcycle business. He carries a large stock of supplies and parts, and repair work is turned out promptly. Another attraction at this agency is the big locker room on the upper floor of the building, in which a motorcyclist who stores his machine with Jenkins can keep his riding clothes under lock and key. Adjoining the locker room is a big bath, with three showers, wash basins, etc. It is certainly refreshing, after a hot, dusty run, to jump under the shower, get into fresh street clothes and arrive home fresh and clean. This year, of course, the M. M. will be the only machine Mr. Jenkins will handle.

Ovington Motor Company

ONE of the important changes that is likely to occur this year is the handling, in New York City, of some American built machine by the Ovington Motor Company. On his recent trip abroad Mr. Ovington secured permission from the F. N. people to sell an American motorcycle in New York. Just what it will be has not been decided, or, if it has been decided, it is kept a dark secret. The two new F. N. models will, of course, occupy the center of the floor at the Ovington sales rooms, 2232 Broadway. In addition to the imported supplies which this company carried last year, many new Ovico specialties will be catalogued. Just before going to press we learn that the Ovington Co. have taken on the agency for the Merkel-Light.

F. B. Widmayer Company

FRANK B. WIDMAYER, who recently incorporated and added the company to his name, has had the uptown agency for the Indian for several years. In 1909 the new company will continue to handle this machine; but it will be an exclusive line, the other two makes which Widmayer carried last year having been dropped. Just as soon as the season opens, this concern plans to inaugurate a novel storage and repair station, close to the main store at 2312 Broadway, that will be an Indian "Wigwam." The idea is to furnish storage facilities, lockers, baths, a reading room, etc., all for a nominal sum. Of course, the very complete line of parts, accessories and supplies that Widmayer has always carried will continue to be one of the features of this business.

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Amos Shirley

ON the west side of Eighth avenue, just below Fifty-sixth street, Amos Shirley has a fine, deep store, where an immense business could be handled. Underneath it he has a well equipped repair shop, and a vast quantity of space for storage of supplies, etc. During the past year he has had the Indian and R-S on sale; he also imported a number of Styria machines. Deliveries on the latter were held up for a long time on account of a strike among the workmen at the factory, and this year it is probable only the two former will be handled.

T. J. Sixsmith

UP on 100th street, at No. 203 West, just off Amsterdam avenue, is the shop of T. J. Sixsmith. He has the R-S agency and has built up a considerable trade among the riders in that neighborhood. Sixsmith has a repair shop, where he can take care of all minor repairs. He depends also on bicycles and the sale of supplies and accessories to reinforce his motorcycle business. The latter has grown, however; each year shows an increase in sales over the previous one, and Sixsmith may yet open up on Broadway.

Henry J. Wehman

HENRY WEHMAN, Secretary of the F. A. M., has just taken up the agency proposition in Brooklyn. His store at 1201 Bedford Avenue has been attractively, almost sumptuously, fitted out. He has the Curtiss for Greater New York and Long Island territory. He intends to carry a large stock of all parts, accessories, etc., and will conduct a model repair shop.

Clement Motor Equipment Co.

THE Clement Motor Equipment Co., at 63rd Street and Broadway, is really not an agency at all, neither is it an importer of motorcycles. This concern imports the little Clement motor, and sells it with a complete outfit for converting an ordinary bicycle into a motor bicycle. It also assembles a complete motorcycle.

Henry Heyer

IN Brooklyn, at 1325 Bedford Avenue, Henry Heyer has handled the M. M. since 1903. He has an attractive and commodious corner store in the Bedford "Motorcycle Row" (opposite the 23rd Regiment Armory) and does an extensive business in supplies, accessories and repair work.

Crownshield & Burlinson

IN the importers class also is Crownshield & Burlinson, of 109 E. 114th Street, though this concern does also a local retail business. They import the Vindec motorcycles, and control the whole Eastern States territory. Parts for these machines are carried in stock.

F. A. Baker & Co.

F. A. BAKER & CO., the New York Indian and Pierce distributors, have two stores. One is in New York City, at 37 Warren Street, and the other at 1080-82 Bedford Avenue, Brooklyn. This company makes a specialty of its line of accessories, and gets out a big forty page catalogue devoted entirely to motorcycle fittings. At the Brooklyn store all kinds of repair work can be done.

Tiger Cycle Works

J. HARRY GLIESMAN, better known, perhaps, as the Tiger Cycle Works, has a big store on Eighth Avenue, with his offices above it, devoted entirely to selling motorcycles, bicycles and sporting goods. Gliesman has handled the Curtiss in New York City for several years. His repair shop is one of the most complete in the city, and he makes a specialty of that class of work. He also carries a complete stock of parts and accessories, and he sells these fittings throughout the whole country.

Yonkers Sporting Goods Co.

THE Yonkers Sporting Goods Co., of 869 Broadway, Brooklyn, N. Y., is one of the most recent additions to the motorcycle business in Greater New York. They secured the N. S. U. agency for Brooklyn and Long Island a short time ago and will display these machines in their two stores in that borough. Sub-agencies are being established on Long Island, and this concern will probably take a prominent place in motorcycling affairs from now on.

N. S. U. Motor Co.

THE N. S. U. Motor Co., 206 W. 76th Street, are importers, not local agents. This concern is a branch of the Necker-Sulm (Germany) manufacturing plant, where N. S. U. machines are made. The American branch is under the management of Mr. Eugene Kicherer, and the business is national. This concern also imports the famous Shamrock-Gloria belts, tires, and other motorcycle accessories.

Prospect Motor Co.

THE Prospect Motor Co., 63rd street and Broadway, manufactures a line of Simplex specialties, consisting of belt hooks, pulleys, handle-bar switches, etc., etc. This concern also builds Simplex Peugeot motorcycles, using frames and tanks and parts made in this country, and fitting Peugeot motors. It also makes a specialty of machine work, altering, etc.

J. Pfleiger

WAY out on Bushwick Avenue, in Brooklyn, there is one other shop. That is Pfleiger's Motorcycle Depot, celebrated as the starting and finishing point of the second day's run in the 1908 F. A. M. Endurance Contest. Pfleiger's business is largely in storage and repairs. He has a large shop, with lots of room, and a repair department that can take care of all ordinary jobs.

THE Syracuse Motorcycle Club held its first annual meeting in the parlors of the Vanderbilt Hotel, Syracuse, January 5, with about thirty members present. Several applications for membership were received and a constitution and by-laws adopted. The club proposes to have several runs and contests during the riding season. The following temporary officers were made permanent officers for the year: President, Fred W. Walrath; Vice-President, Hamilton White; Secretary and Treasurer, J. Gillespie; Captain, Wesley Shane; First Lieutenant, George W. Fenner, and Second Lieutenant, A. V. Brewster.

ACCORDING to talk at the Palace Automobile Show, Indianapolis is to have a two and one-half mile motordrome. This will be built in time for next season's automobile racing. A company has already been formed and the new track will be built at some point convenient to Indianapolis. It will be properly banked for high speed and will rival or even surpass the famous Brooklands track, which is England's best up to the present time for automobile and motorcycle racing. When this new motordrome is completed no doubt many important motorcycle events will be held on it, and it is sure to afford a new crop of world's records.

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KINKS AND WRINKLES

Grinding Valves

"THE other day I noticed a fellow in our garage," said A. H. Bartsch, of the N. S. U. Motor Company, "attempt to grind in an inlet valve with only a few turns, wipe off the grit and insert it into the head of his motor ready to let it go at that. After remonstrating with him for his carelessness in not at least washing both seat and valve off with gasoline, I continued to explain. Should a particle of emery remain about the intake, the first suction stroke would bring it into the cylinder. This would play havoc with its walls, to say nothing of the piston rings. After you have ground in your valve sufficiently, test it with gasoline. This is "thinner" than water, and will pass through a seemingly indescernible crevice that water could not leak through. Take advantage of this in the following manner: Place the valve in its cage, turn it upside down and pour gasoline into the little cups formed by the valve and the cage. If the valve will hold gasoline you can be certain it will not leak gas, and rest assured your valuable compression is not escaping through that locality.

"Another use I found for gasoline, and for that matter kerosene, is that it may be used to carry lubricating oil into very tight or close crevices where oil alone could not penetrate, but when it comes to priming your motor these cold days, washing down the cylinder walls or flushing your crank case, use kerosene and not gasoline. Gasoline will go right down to the bare metal and leave a surface that is rather harsh and difficult to lubricate at first, while kerosene will take off foreign matter and leave the metal in fine condition to receive the lubricant. Of course in extreme cases, gasoline may be used, but I would always lubricate the frictional parts after it has been injected and before high speed has been attained.

"And, further, regarding the flushing of the crank case, I have always found a marked improvement in the running of any motor after doing so, therefore my motor is given a kerosene bath in its crank case every five to eight hundred miles. All clogged oil passages are therefore kept clean and a sweet and smooth running motor is the result; but always lubricate thoroughly by pedaling before you start your motor, then drain this and insert a fresh pumpful of oil. This should also be drained after running the motor five or ten minutes on the road, as the kerosene thins the heavier oil and causes it to lose its quality and burn up to some extent."

Care of Chains

RIDERS of chain driven motorcycles will do well to remember a "wrinkle" of bygone cycling days. The chain should not be neglected, either in adjustment or in being kept in condition. Grit and road dust, and more particularly mud, play havoc with the very best chain, and the most mechanically inclined riders are apt to leave the chain to take care of itself. Then comes a time when the chain wears "out of pitch" and angry letters are penned to the makers. Again, is it not more enjoyable to have a silent drive than that continual "swish"? Just take that chain off, and the "pedalling" one as well (to kill two birds with one stone), and "boil 'em"! No, not in water, but in paraffin wax, which is a cheap commercial product hailing from the oil store round the corner. After letting the chain "boil" for say twenty minutes, stir it round a bit for a short while and then fish it out and hang up to "dry." Always remember to tie a piece of string to the chain before immersing it in the wax, as it saves time and temper afterward. Then, before replacing, mix a little flake graphite and vaseline in equal quantities and give the chain a thin coat. Then note the difference in running and in the subsequent life of the chain; for if this is done at intervals of, say, 1,000 miles that chain will last twice as long and never "grumble." The pot of wax can be used two or three times before it is fit to throw over into the neighbor's garden. Another hint to the Benedicts in our ranks—don't use the wife's best aluminum saucepan for this stunt, or, if you do, start out on a tour as soon as you have the chains back in place again.

Winter Riding

THIS is the season when, unless properly clothed, one soon becomes "frozen-meat." Herewith a few tips which have been bought by experience. One's feet and hands are the worst sufferers, and something well worth knowing is the warmth giving property of silk. A pair of thin silk socks and ditto gloves *underneath* the usual stockings, socks and gauntlets helps matters astonishingly. Thick boots, with soles studded with nails, should be worn, as these come to be indispensable in making anything of a graceful mount in "grease."

It is hardly picturesque to sprawl in the roadway while mounting, and the small boy on the sidewalk is always there to be funny at your expense, so try these non-slip treads on your boots and you will not regret it. Be sure and see that the wind cuffs on your gauntlets are effective, as once wind penetrates up the sleeve it seems to spread the cold all over you. Thick woollen underclothes, a homely flannel shirt, a sweater with high roll collar and a weather-proof jacket complete the change from the fair-weather outfit, bar the cap, which should have really thick ear muffs, not an apology for such. One of the very best things in this line is an importation by the Jaeger Company which is called the "Arctic." This cap is made of thick fleece and is shaped something like a small Scotch tam-o'-shanter. Its "beauty" lies in the fact that it can be pulled down over the face, covering the forehead, ears and chin. One cannot call the effect sightly, but it is certainly proof against cold. It is really designed for arctic exploration, but it fills the bill for winter motorcycling admirably.

Scientific Driving

ALWAY get the best out of your power plant and driving gear. Many a rider who does overtime jobs at grinding valves and getting his engine compression perfect and his carbureter adjusted "just so," goes out on the road and drives his machine in the very way to neutralize his labor.

Never open the throttle unless it is really necessary, and you will find that the engine will retain its vital kick longer. It was only last week, while out with an automobile, I noticed an Indian rider alongside, driving about eight miles an hour through traffic with his throttle evidently full open. Again, to prove the contention, two of us were out for a morning spin on sister machines, my friend being twenty-five pounds lighter in weight than myself. We decided to have a speed test over a course of two miles, ending in a long, steep hill. My friend started in the lead with throttle half open, and I found that if I opened mine two notches and drove on full advance I could keep him just about fifty yards ahead, but drawing away a bit all the time. One mile was passed, and he led by fully seventy-five yards. The road started to rise gradually. I

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opened up one more notch. When we came to the last stiff piece of hill I was but twenty yards behind, and on opening my throttle three-quarters, went past like a streak, and only had to open "full' for the last fifty yards. My friend had overheated his engine and had to pedal the last bit to help it. He insisted that my machine was faster than his, so I re-rode the race, changing mounts with him, with the same result. Thus the policy of the open throttle carries with it loss of efficiency through overheating.

Overhauling Tires

OFTEN when one takes off a cover after long use rust is noticed all round the inside of the rim. While you have the cover off, get out the paint pot, clean the rim and give it a coat of paint inside. Fit a new tape over the spoke-nipple heads and then test the tube. Look for cuts to fill up in the shoe. Re-inforce any weak spots in the cover with a strip of prepared canvas and make sure of those "doubtful" patches in the tube. It takes less time to overhaul the tires in detail this way than to go at it piecemeal. A useful tip to employ is to fasten a piece of thin soft iron wire just about 1-8 inch above each tire, running across the front and back forks. This serves to catch stray spikes of flint which get embedded in the tread and cause punctures. This little "fake" will pull out many a tack and nail. Often a flint spike or a nail will be carried some revolutions of the road wheel before puncturing the tube, and this device will make good in extracting the splinter.

Troublesome Stops

A LOOSE terminal is the cause of many a minor breakdown, and therefore a simple fake to avoid an annoying stop may perhaps be welcome. Take off the nut or fastener and the terminal, slip a thin rubber band round the base of the post, giving the band one or two twists round it. Replace terminal and nut over this and then hook the rubber band over the post and loop it until tight. Care must be taken not to insulate the terminal from the post by slipping the band between the surfaces in contact. Therefore a small copper burr or washer can be added for the prevention of this, between the band and the loop of rubber at the base of the post. This can be applied most successfully to magneto terminals which have an annoying way of coming adrift at times.

Hill Climbing

THIS brings me to the familiar question, "Which is the best way to tackle a steep hill?" We will take it that the hill is a long, steep grade with no chance of "rushing" it, and that the engine has a fresh charge of oil in its innards. Drive at the pimple with the throttle almost closed and spark fully advanced. As speed slackens open throttle gradually and at the first sign of the engine "hammering" retard the spark slightly. Only give her full gas when you come to the steepest part, and *always* leave one notch or two as reserve power. If the engine labors on a grade the action of more gas and retarded spark should be simultaneous, and as the machine picks up speed again the spark lever can be advanced a trifle at a time. This shows what a luxury handlebar control is, as it does away with hurried fumbling at the levers amidships.

A Magneto Tip

VASELINE is the best protective for a magneto; smeared over the terminals it is practically weatherproof. An enclosed magneto is, of course, best of all; but the man who makes a case of rubber or leather often courts trouble, for in very wet weather the case gets damp inside and mysterious misfiring results. This is caused by the film of wet "bridging" the terminals, or otherwise short-circuiting the magneto. Therefore it is best to be on the safe side and use the homely vaseline pot instead of the more expensive and sometimes delusive case.

For the Guidance of "Twin" Riders

IN overhauling a twin cylinder machine it is a good thing to remember that in order to keep the engine running perfectly the cylinders should correspond exactly in their adjustment. Thus the compression of both cylinders should be as equal as possible. The valve springs on both inlet and exhaust should be of the same strength. Check the opening of the inlet valves, which should be about 3-32 inch, to give the best results. Adjust the timing very carefully—the simplest way of doing this is to run the machine on the stand and first cut out one cylinder and then the other until you can detect no difference in the running of either cylinder. This method may be unscientific, but it is the one which is certainly the handiest and can be understood by a novice.

A Word of Warning

MANY of our manufacturers are providing that most useful fitting, namely, a petcock to allow the draining of a small quantity of gasoline to ungum the piston. A word of warning to the unwary! Don't allow too much gasoline to flow into the cylinder head—a few drops is sufficient. Remember that gasoline is a very efficient "scourer" and thus too much will wash the film of lubricating oil from the cylinder walls, with dire results unless the lubricating oil quickly gets into action again. Therefore be sure to let only a few drops trickle through, and then give the engine half a pumpful of oil for safety.

Lock Nuts; Split Pins

VIBRATION is our great enemy, therefore a winter's evening can be most usefully applied in counteracting its effects. Lock-washers may be used on troublesome nuts here and there. In overhauling, one comes across a loose nut occasionally which has often caused trouble on the road, therefore an additional lock nut can be added with advantage. A small hand drill is a very useful addition to one's tool bench, and by its use split pin holes can be drilled where wanted and split pins inserted. Thus many a pretty roadside breakdown can be avoided at very small expense, and the job is well worth the time expended upon it.

ONE of the most common failings of the beginner is to resort to the pipe wrench or the gas pipe pliers to loosen a refractory nut or connection. Such tools only grip by sinking into the metal, and the slightest slip means an abrasion that cannot be remedied.

DON'T neglect the bicycle part of your machine just because it has an engine tacked on to it. Oil and overhaul the bearings occasionally, not forgetting the hard worked coaster hub and steering head. Oil doesn't cost much, but bearings do.

KEEP all the connections of the inlet pipe of a multi-cylinder engine perfectly tight. Slackness at any point permits the entry of a certain quantity of extra air, which renders starting the engine more difficult.

IT is a mistake to lubricate magneto bearings too frequently. While ball bearings require little oil, they should not, however, be overlooked entirely.

THE MOTORCYCLE MART SELLS THE STUFF TWO CENTS A WORD

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CLUB NEWS

WHEN Freddie Huyck reached San Francisco last month the local Club extended a very hearty welcome to him, in which it was ably seconded by the Oakland M. C. A large number of enthusiasts from both cities congregated around the festive board and helped pass a very enjoyable evening. Some choice selections were rendered on the piano by various members, many of the latest songs were sung, refreshments were served, cigars passed around, and a few lively bouts in the manly art were indulged in by members and friends.

The San Francisco club is now located in its new quarters, having secured a cottage that is especially fitted to their needs. A reception room, Secretary's office, billiard room, card rooms and a large meeting hall, together with an adjoining pantry with all the conveniences that could be expected, are part of the new club rooms. The club is prospering; the membership is increasing at every meeting and now numbers practically every retail and wholesale concern in the city interested in the motorcycle game. Meeting nights are Thursday of each week, club runs are held every other Sunday, while a social evening is arranged at least twice a month for the benefit of the members. At various intervals lectures on the various parts and operation of the motor, together with the causes of troubles and their locations are of much interest and very instructive to members.

One very attractive feature of the club's runs is that every member reaching the destination and signing in the Captain's book is given a silk ribbon, nicely printed with the date and destination thereon. The Captain purchases seven yards of ribbon for each run, and this is equally divided among the number making the trip. Some members secure anywhere from two inches to half a yard on each run.

LANTERN slides showing what may be encountered in a motorcycle trip on the other side of the water and descriptions of the pleasures and pains of operating one of the "gasoline horses" in this country enlivened the postprandial programme at the first annual dinner of the Providence Motorcycle Club Saturday evening, January 9. The dinner was held in Geib's parlors on Westminster Street and about forty were present, including a number of out-of-town guests. Previous to the dinner there was a social gathering in the parlors, at which an opportunity was given to renew old acquaintanceships and form new ones.

Shortly after 8:30 o'clock the members and guests had dinner. Then, after a very busy hour, came the speeches, J. B. McLaughlin acting as toastmaster. William Scott talked on "Good Roads," after which Victor Page told about "The Weak Points in the Motorcycle." President Buffington gave a toast, "Our Motorcycle Club," that met with ready response, after which B. A. Swenson gave a little story about "Our Fast Riders."

The lantern slides, made from photographs taken by Frank E. Domina while on a trip in Europe, were then shown, and were received with applause. A break in the formal programme came when Victor Page, in a neat speech, presented B. A. Swenson a silver shield as a memento of the Providence cyclist's "rough ride" of forty-nine hours between New York and Chicago. Mr. Swenson made an appropriate speech of acceptance and told of some of the incidents of the trip. Informal speeches were then made by several members and guests.

THE Syracuse Motorcycle Club, organized last month, held its first annual session Tuesday night, January 5, at the Vanderbilt Hotel in that city. The club starts off the new year with a marked showing of enthusiasm, and plans some interesting club runs and endurance contests during the coming riding season. The organization now has a membership of thirty, and several additional applications were received at this meeting. It is expected the membership will be well beyond fifty before the season is under way. A committee was appointed to select club colors, and another committee is looking for rooms. If arrangements can be made the organization will secure a room at some downtown garage where meetings may be held and machines stored when not in use. The following temporary officers were made permanent officers for the year: President, Fred W. Walrath; Vice-President, Hamilton White; Secretary and Treasurer, J. Gillespie, and Captain, Wesley Shane. George W. Fenner was elected First Lieutenant and A. V. Brewster Second Lieutenant. The three last named will have charge of the club runs. The next meeting of the club will be held at the same place on Wednesday evening, January 20.

COLD and snow appear to have no dampening effect on the spirits of McKeesport (Pa.) riders. They can't ride, of course, but they started off the new year by organizing a club. On January 1st practically the whole motorcycle population assembled, organized, elected officers and subscribed enough money to buy a small club house. Two years ago there were just three riders in the town. Last year this number was increased to seven, and now there are eighteen. The new organization is to be known as the McKeesport Motorcycle Club, and its officers are as follows: Fred S. Lloyd, President; F. W. McElrary, Secretary-Treasurer. A constitution and by-laws committee was appointed, consisting of John F. More, James L. More and Thomas Lawley. The club also determined to send in its application for affiliated membership in the F. A. M. A series of banquets and entertainments was projected, to arouse enthusiasm. Among the members are four riders who compose the Jungletown Quartette, one of the finest, and these will be called upon frequently to help entertain guests. A cordial welcome will be extendd to all visiting motorcyclists; the club latch-string is always out.

OFFICERS for the year were elected at the regular meeting of the New Jersey Motorcycle Club on December 22. The President is P. W. Stevens; Vice-President, W. J. ("Sen.") Morgan; Second Vice-President, George P. Fawcett; Recording Secretary, Thayer McLaren; Financial Secretary, William H. James; Treasurer, Howard Hill. The road officers are: Captain, Percy Drummond; First Lieutenant, Keneth D. Owen; Second Lieutenant, George P. Fawcett.

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SAN DIEGO MEN RIDE ALL YEAR ROUND

AT the meeting of the Los Angeles M. C. on Monday night, December 28, the following officers were chosen to serve for the coming six months, with the exception of the Captain, who will serve a year: President, J. Howard Shafer; Vice-President, Harry Canfield; Recording Secretary, Oliver Forsythe; Financial Secretary, George Eno; Treasurer, Carl Johnson, re-elected fourth time; Captain, F. B. Bruner. On Sunday, January 3, the first "Ribbon Run" of the coming season was held. There will be probably about $300 worth of prizes put up for perfect attendance on all runs; this brings out record-breaking attendances, and puts life into the runs. The new reading room in the club house was recently opened, and has become quite an attraction to the members. A gymnasium is now being built, which, it is hoped, will be ready for use in a few weeks.

THERE is nothing slow about the Danville (Ill.) Motorcycle Club. In fact, it is very much alive. Since the announcement, a few weeks ago, that it would hold a big hill climb on May 1st, the club has secured an F. A. M. sanction for the event, selected the hill, secured permission from the authorities to use it, had it surveyed, and has made other detail arrangements. The climb will be up what is known as Newport Hill, at Newport, Ind., twenty-three miles from Danville. The road is perfectly straight, with a surface as smooth and hard as a floor. The grade is stiff—139.28 feet elevation in 2,300 length, and the climb will, therefore, be worth while. The American Automobile Association has sanctioned an automobile hill climb for the same hill on the same day, and the two events will be pulled off in conjunction. Entry blanks will soon be ready.

THE Indian Motorcycle Club of Chicago was formally organized on December 23. At a meeting, held at 1251 Michigan avenue, officers were elected as follows: President, James Sefcheek; Vice-President, John T. Fisher; Secretary, C. S. Benham; Financial Secretary, C. E. Jenkins; Treasurer, Wilson Cook; Sergeant-at-Arms, H. W. Miller; Captain, George Lyons; First Lieutenant, A. Kratochvil; Second Lieutenant, T. C. MacVicar. The club is a social organization, formed to promote good fellowship among the local Indian riders; but at the same time it is the intention to pull off some race meets this coming season where Freddie Huyck, Charles Van Sickle, and other of the club's crack riders can demonstrate their speed possibilities.

AT the next meeting of the Indian Motorcycle Club of Chicago Vice-President John T. Fisher will formally present a trophy to be competed for at a reliability contest open to all members of the club. The suggestion has been made that the course be over the Valparaiso route, which would make a journey of 124 miles. This would test the driver as well as the machine and be a good day's sport, says Mr. Fisher. An effort will be made to have the run in the spring, possibly in April, if the weather and roads will permit, and if not, Decoration Day may get the call.

THE Motorcycle Club of San Diego held its annual election of officers last month, and for the coming year the following were selected to serve: President, J. G. Scripps; Vice-President, F. W. Downs; Secretary, Al. E. Lambla; Treasurer, C. A. Sheppard; Captain, W. O. Borden; Lieutenant, Paul C. Kelly. Aside from the election of officers there was but little business transacted at the meeting. There is no winter in San Diego; that is, winter of ice and snow and cold, and the accompanying photograph was taken of the club "bunch" as it started off for a Sunday run in December.

PHOENIX, Arizona.—A new club is now being organized for motorcyclists. Any one wishing to join should notify the secretary, J. H. Lane, at the Phoenix Cycle Company, on Center street. It is proposed to have a run to some place of interest every Sunday. W. B. Barr will probably be a member, as a few days ago he bought a new Thor machine.

DENVER is not to be left behind when it comes to the show proposition. Under the auspices of the Denver Motor Club, the First Annual Automobile Show will be held at the Auditorium in that city on February 16 to 18 inclusive. Like the show promoters in the larger cities, the club's committee will set aside a special motorcycle section should the applications for space warrant doing so.

A PECULIAR situation has arisen in California. Because the state law regulating the speed of automobiles makes no mention of the motorcycle, the cases against the three motorcyclists arrested recently in San Diego were dismissed in court. The state law, while limiting the speed of automobiles to fifteen miles an hour, does not include the motorcycle, so, that it is apparently possible now for riders to hurry to their heart's content.

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QUESTIONS AND ANSWERS

An English Enquiry

I NOTICED in the November 15 issue of your interesting paper an account of a record made by Walter Goerke at Detroit, and on extracting the time for eacn separate mile I find that the time for the third mile works out at 47 1-5 second,s the next fastest being over 56 seconds. Being the holder of most of the principal records over on this side, I am naturally interested in the performance of your riders, which, by the way, I hold in very high esteem. I should feel it a very great favor if you could inform me whether the time of this mile, viz., 47 1-5 seconds, is correct. Trusting you will convey my best wishes through your paper to all American motorcyclists, and wishing you the compliments of the season,

Yours faithfully,

Plumstead, S.E., Eng. C. R. COLLIER.

P. S. During an interesting conversation with Mr. Ovington at the Stanley Show he mentioned the possibility of some of your riders coming over to compete in an International race at Brooklands. Should this come to pass I will do my best to assist them, and can promise them a hearty welcome from all concerned in track racing on this side.

The figures made at Detroit, as reported, have been declared unauthentic by Mr. R. S. Morton, chairman of the F. A. M. Competition Committee. Your communication was handed to him for reply. Mr. Morton is making an endeavor to secure a team to represent America in an International race as proposed at Brooklands. His letter follows:

Mr. C. R. Collier:

Dear Sir—Your letter of December 12 to the MOTORCYCLE ILLUSTRATED was turned over to me as Chairman of the Competition Committee of the F. A. M. Replying, the time you refer to I have on file at 0.56 3-5 instead of 0.47 1-5. We do not take any intermediate miles for records; but I have race returns on file showing miles in 0.46 4-5 and 0.47 1-5, though not made at that time. They were made by Fred Huyck on the same track at a previous meet.

Regarding what you say about our riders coming to England next summer. I am making an effort to get a team over there, and will take the matter up with Mr. Strait as soon as possible. It will have to be in the early spring, however, as there are a number of national championships which will be run off here, and the team will want to be back by the 20th of June for them. If it could be arranged to have your races before that date I will try to bring a team over if it can possibly be arranged. Any thing you can do will, of course, help.

I look forward to seeing in the near future, on both sides of the water, races open to all the world, and I believe some of the larger clubs are figuring on holding world's championship challenge cup races in the fore part of next September. I would like to have you write me, at any time, anything which you think would be of interest to the boys on this side or help the game along, and if we have races here we would all be pleased indeed to have you come over and try your luck.

Yours very truly,

845 Greene Ave., Brooklyn, N. Y. R. S. MORTON.

Can Some One Answer

WILL some one of the readers of MOTORCYCLE ILLUSTRATED answer the questions here submitted, if possible. I am building a single cylinder high tension magneto, and would like a formula for the wiring of the armature and the construction of the condenser. The armature core is 2⅞ inches long by 1½ inches in diameter, cut out so as to leave center web 1½ inches long, and ¼ inch thick, which will give space available for the winding. My condenser sheets can be 1¾ inches wide and 3¼ inches long, that is, the tinfoil can, as I have margin enough after that. How many sheets should I use? How much and what size wire required for the primary and the secondary? A short time ago I made a small machine, using parts of a telephone magneto, and, considering the conditions, would say that it was successful. The magnets were not very strong, the pole pieces were cast iron instead of steel. My circuit breaker was not very positive and the condenser I guessed at, but in spite of this, when I put it together and connected it to a spark plug I could get a visible spark by twisting the armature by hand. It was only an experiment, as I had very little faith in it; but when I found that I was so near the right track I decided to make a new one that would operate. I would say that the windings on that one were two layers No. 20 cotton covered, about 80 turns, and as much No. 36 single cotton covered as I could get on, about 5,000 turns, as near as I could judge. On my new one I will have a little more room, but not much.

It might be interesting to the readers to know how I am making this, so will give a short description. The magnets are three in number, 1¾ wide ¼ inch thick and five inches high (horse shoe of course). The pole piece is from a solid piece of tool steel, finished complete before being split to make the two halves. The end casings are 2-inch diameter, ¼ inch wide, screwed to the ends of pole pieces—the one for primary end being slotted so as to make about 1-6 of a turn back and forth to advance the spark. These are made of aluminum, and the end plates for the armature are of bronze. The shaft is ¼ inch diameter and runs on ball bearings. The high tension commutator is a deep V fibre piece with a brass ring in centre. A carbon brush will take off the current. The make and break on the primary end is original and would take too much space to describe, although very simple. There will be a plate of aluminum on top and bottom the whole length of pole pieces to make the armature dust tight, and the condenser will set on the top plate similar to the Bosch. I would be glad if any one could suggest mistakes or improvements in this construction, and also give me the information asked for.

E. W. C.

How to Use Picric Acid

RECEIVED a subscription to your paper for Christmas and will probably pester you to death with questions. Here are the first two: Can you tell me what percentage of picric acid can be safely added to gasolene for use in a 2¼-h. engine so as to give more power and speed but not enough acid to harm the engine? I realize this is not to be used continually, but on "special occasions" only. I understand that if a common moth ball be dropped into a gasolene tank the result will be the same as I desire. Am I right?

Thanking you in advance for the information, I am yours truly.

Yonkers, N. Y. W. F. BULL.

You cannot use picric acid in any quantity without injuring the motor. It causes the valves to "pit" rapidly. Its use can always be detected; the carbureter becomes green within a few hours; the acid clogs it up, and if it doesn't do that it eats into and enlarges its passages. If you feel there is a dire necessity for using picric acid on some "special occasion" the fuel should be prepared in the following manner. Put a gallon of gasoline in a glass or earthen bottle; see that it can be corked tightly. Tie a quantity (two teaspoonfulls is about right) of the acid in a rag in the same manner your laundress ties up the clothes blueing. Drop it into the bottle; shake up every day; and let it stand for a month. By this time the gasoline will have absorbed all of the picric it possibly can. The fuel should then be filtered carefully to eliminate all residue, and the combination is ready for business.

Moth balls are made up largely of napthaline, a by product from crude oil, obtained after kerosene and gasoline are refined from it. It contains a very high percentage of carbon, and four or five (not one) moth balls dropped into a gallon of gasoline will render it more highly explosive. The results will be practically the same as though picric acid was used. Watch out, however, for a rapid over-heating of your engine.

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L. H. CORNISH - - - - - *Advertising*

The New York Field

IN Greater New York there are four million residents, and about two million additional persons come into or pass through the town each day. In view of this fact it is quite extraordinary how few motorcycle agencies there are in the city. In New York there are fourteen motorcycle depots; in Brooklyn, four. Of New York's fourteen, five import, leaving only eight bona fide agencies. Recently a MOTORCYCLE ILLUSTRATED representative covered the entire field, and he found the following companies represented in New York City: Reading Standard, two agents; Wagner, one agent; Curtiss, one agent; Marsh-Metz, one agent; Pierce, one agent; Indian, four agents. It will thus be noted that six machines out of about thirty-five different makes are represented by agencies in the city of New York, certainly an extraordinary record; we mean extraordinarily small. This condition proves one of three things—either that the agency business has already caught up with the demand or that well established sporting goods and kindred houses have not yet enough faith in motorcycling to take on agencies, or, finally, it may mean that our firms are neglecting this extraordinary market.

New York City is the buying center for at least ten million people, including Long Island, the city proper and a large section of adjacent New Jersey. These people habitually run into town to buy things. It is certain that if a man residing within fifty miles of the Greater City wants to buy a machine, he will most likely run into New York and spend a day at the agencies here. In no other way can he see so large a number of machines. His trip at least affords him a basis of comparison, even should he finally buy from the local agent in the town where he resides.

In view of the tremendous possibilities of this market it would seem advisable, indeed necessary, that those manufacturers in a position to do so should bend every effort to locate agents in New York City. It will appear to all an obvious fact that the more agencies there are the greater the sales will be. Each agency furnishes an object lesson to the public; each motorcycle store is an advertisement of the growth of the business. Suppose, for instance, there was a motorcycle depot on Forty-second street near the Grand Central Depot. It is estimated that nearly a hundred thousand people pass along the north side of this street each morning and evening. The mere passing of this store morning after morning, and night after night, would finally sink the motorcycle idea into quite a large number of people. Of this there can be no possible doubt. Yet Forty-second street has no motorcycle agency of any sort whatsoever.

In the downtown district we find one agent, Baker, in Warren street. Between Warren street and Forty-eighth street there is not a single motorcycle agent located in the city, though the district has a resident population from river to river of one and a half million people. On the great East Side, with its thousands of foreign population, many of whom are interested in the sport, especially the young Italian element, there is not a single depot that we know of.

In Sixtieth street, just off Broadway, Jenkins is located, and this is a central point. It is just at the center of the great "Automobile Row," and the Jenkins location has been used as a cycle depot for nearly twenty years. It is, in fact, one of the old stand-bys. Strung along upper Broadway are a number of importers and agents, and they make a very good showing. This group, which includes the N. S. U. Branch, McLaughlin, Ovington, Widmayer and Lyons, all located between Seventy-sixth and Eighty-seventh streets, makes a very brave array; but beyond them, all the way up to 125th street, a closely settled district, there is not a single agency.

In the great thoroughfare of Harlem, 125th street, which is second only to Broadway for its number of people, lights, excitement and general business value, there is not a single agent from river to river, a stretch of two and one-half miles, and along which one hundred thousand people pass every day. In the vast Bronx district we know of no agent. Along Nassau street, a great downtown shopping thoroughfare for men, there is but one agency, and that only just established. And on Cortlandt street, another street of a similar kind, there is none at all.

Taking it all in all, motorcycling has a poor representation in New York City, although there are many firms in town who would undoubtedly take up the business and put capital and selling intelligence behind it if they were properly "seen." Representatives of manufacturers who are coming on to the Show would do well to get here in good time to look over the field or should remain here after the Show and appoint agents.. Proper representation in New York should be every maker's first care.

The Palace Show

THE first grand exhibit of the motor car industry—and they are now to follow one after another in New York, Chicago, Boston and elsewhere, lasting well into the spring—was inaugurated at the Grand Central Palace in New York, on New Year's Eve. This Show was composed of the products of that section of the automobile trade known as the American Motor Car Manufacturers' Association.

On the opening night the building was packed solidly, Wall Street and multi-millionaireism generally were all represented. There were also plenty of plain, contented, middle-class folk, too; and, over all, a flood of light and the glamor of artistic decoration; the Palace was made to simulate an old English village. There were 300 or more exhibitors. The Show was opened by Acting Mayor MacGowan, who gave out some wizard figures in his opening address. He said:

On behalf of the city of New York it affords me pleasure to extend congratulations to the American Motor Car Manufacturers' Association on this, the ninth annual international automobile show, and to express the wish that the exhibition which is opened to-night will be the greatest ever held.

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The motor car has come to be acknowledged as something more than an expensive and luxurious means of transportation; it is rapidly becoming a necessity for the conduct of business, and the time, I believe, is not far distant when trucking, expressage and heavy freight now hauled by horses will be done by motor cars.

The citizens of New York have extended a very generous patronage to this comparatively new and rapidly growing industry, and there are in use in this city something like twenty-five thousand automobiles, and the invested capital in garages and salesrooms runs into many millions of dollars, affording employment to thousands of our citizens.

There were about forty-five thousand automobiles made and sold in the United States during the last twelve months, at a valuation of about $75,000,000, and the total capital employed in the maintenance of this business, in all its branches, is upward of $200,000,000, furnishing employment to more than one hundred thousand people.

During the last year fourteen thousand machines were registered in New York State alone, giving a total registration in the State of more than sixty-four thousand, and new chauffeurs were registered to the number of 9,480. There are now 175,000 automobiles in use in this country, and this year it is expected that not less than seventy-five thousand will be added to that number at prices ranging from $150 for a boy's car, to $9,000 for the luxurious touring car of high speed.

With the increased use of taxicabs, the unlimited field for commercial cars for every sort of work and the continued demand for the touring car for business and pleasure purposes, it does not take a very high degree of optimism to predict for this important industry a successful and prosperous future.

All of which is very wonderful. It suggests, too, what the motorcycle trade may develop to when it comes into its own. In looking into the future of motorcycling we have to be more or less guided by foreign figures. In Germany, for instance, of 32,000 gas pleasure vehicles registered last year, 19,000 were motorcycles. In his opening speech Mr. McGowan stated—undoubtedly he had posted himself—that there were now in this country 175,000 automobiles. Figures of this sort would seem to indicate that the future of the gas power vehicle, particularly in the cycle and tricar forms, might be said to be dazzling.

Cycle vs. Car

A PHILOSOPHER of Fulton, N. Y.—C. V. Armstrong—who has tried out the automobile to a finish, and who now gets much joy out of a motorcycle tandem, gives us his conclusions as to both forms of recreation, and, incidentally, he touches on the joys of front seat vs. rear seat. Why is the front seat of any rapidly moving vehicle more alluring than the rear seat? According to the Fulton thinker it's because, on a front seat, you're the whole thing—the world is in front of you, whereas, on the rear seat, you are *part* of the car and much of the exhilaration is lacking. On the front seat you are *pushing* forward; on the rear seat you are *dragged* forward. Think it over. The Fulton man also points out that, in a car, the man is a small part of the outfit, whereas, on cycle or motorcycle, he's the whole thing, as it were. In brief, cycle or motorcycle is *part* of the man; in automobiling, the man is merely *part* of the car.

Show Report, February 1st

OUR report of the New York Show will be published in our February 1st issue. The Show opens January 16th. At first we thought of holding the January 15th issue a few days and include in it a report of the Show. But, necessarily, it would have been a hasty review of the goings on at the Garden, and therefore unsatisfactory to the reader and to us. Besides that, to *hold* a paper is illogical, bad policy. Therefore our story of the New York Show will be published in our February 1st issue. It's a bit late; but we expect that it will be good.

IN *Harper's Weekly* for January 2d, Alfred H. Bartsch has a very readable article on the "Rise of the Motorcycle: Reasons for Its Growing Popularity, With Practical Advice to Users." It is well written and nicely illustrated. Mr. Bartsch's work, both practical and comic, is well known to readers of MOTORCYCLE ILLUSTRATED.

NEW YORK'S NEW YEAR'S RUN

THAT time-honored custom—inaugurating the New Year with a midnight run from Columbus Circle in New York City to Yonkers and Tarrytown—was observed this year under different conditions. The bicycle end of the run was started promptly at midnight, just as the bells were ringing and the whistles tooting a welcome to 1909. The motorcycle run was conducted as a closed club event by the Metropolitan Motorcycle Club, to avoid any friction with the rules of the F. A. M., which had refused a sanction to the Associated Cycling Clubs to conduct the run as an open event.

The motorcycle police, as usual, were on the lookout for speed violations; but not one of the seven actual contestants was arrested after the run started at 12.30 A. M. Before this time however, when the riders were coming downtown for the line-up, the fun commenced. J. A. McKeever and Herman Sussman fell into the hands of the police, and both were assessed $10 in the night court. Walter Ginger, who started out to accompany the contestants, got as far as 96th Street. He had started a few minutes late, and was jogging along all by his lonesome when he was gathered in. He was charged with going fifteen miles an hour, and was let off with a $3 fine.

J. Shauli, Captain of the M. M. Club, was pacemaker, and he led the riders at a very moderate pace until outside the city limits. None of the riders attempted to pass him, and he kept his speedometer well within the speed limits, both in the city proper and on Riverdale Road. Policemen in an automobile and on motorcycles accompanied the five riders the whole distance to the Yonkers line. Here a Yonkers policeman was waiting, and conducted the run through the city.

This individual had been waiting in the cold for the run to show up, and was much put out by the delay. He said: "The sooner you fellows beat it through here the sooner I get off, so chase yourselves." Further on up the line, special deputies had been sworn in to keep the roads clear.

At Yonkers the riders were checked, and the mayor of the town was there to receive them. With a pat on the back they were sent off for Tarrytown. Their reception in the Hudson River towns was all that could be desired. F. A. Stearns was the first to check in at Yonkers and the remainder followed all in a bunch, the official order of finish at Yonkers being: 1, F. A. Stearns; 2, J. Chicachee; 3, S. Shauli; 4, J. Sheehan, and 5, Walter Shulman. The order of finish at Tarrytown was as follows:

1 J. Chicachee ..... M. M. 1:11
2 J. Shauli ..... M. M. 1:12
3 F. A. Stearns ..... M. M. 1:14
4 Walter Shulman ..... M. M. 1:18
5 J. Sheehan ..... M. M. 1:20

The two unfortunates, McKeever and Sussman, had paid their fines and started from the 68th Street Street Station at just a quarter to two in the morning. Of course, they were hopelessly out of the going, but they went on and covered the route.

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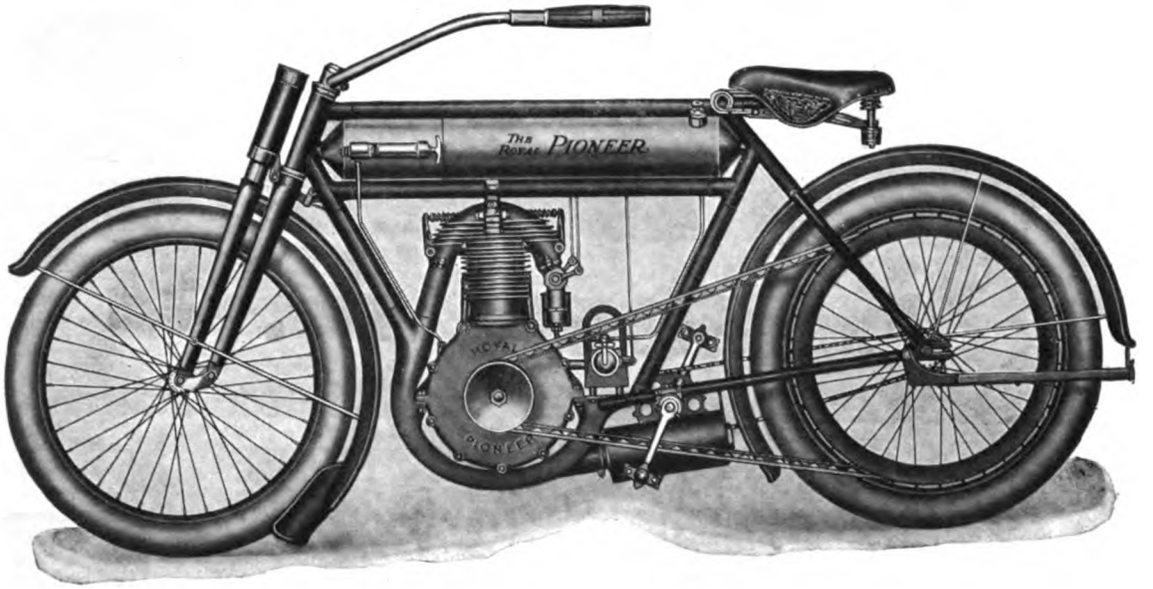
ROYAL'S RADICALLY NEW MODEL



THE Royal for 1909 shows such an advance over its predecessors that its builders appear justified in adding to its name; so now it's the "Royal Pioneer." If ever a machine bristled with features it is this new Worcester product, of which rumors have reached New York from time to time. To demonstrate its efficiency, its designers recently invited all the motorcyclists of Worcester out to a test on Leicester hill, the biggest "pimple" between Boston and New York, and astonished the spectators by making the climb eight times in succession without a turn of the pedals. The rider agreed to keep the exhibition going all the afternoon, but it was a cold day and a shift was made to "Dead Horse Hill," celebrated for the automobile climbs that have been held on it. This proved more meat for the Pioneer; three trips up, in rapid succession being made at a trifle over thirty miles per hour, on a surface not as good as it might have been. These climbs were made with the motor geared four and a half to one, which tells a tale of its own of speed on the level.

In the development of power from a motor of only five hundred cubic centimeter cylinder capacity (30½ cubic inches), the designers, before putting pen on paper, searched for features to contribute toward increased engine efficiency. It was one of their early conclusions that greater relative importance attaches to the head of the motor and its component parts than is ordinarily allotted, and the Royal staff spent months in designing, simplifying and redesigning this group of parts before proceeding with the remainder of their work. Thus the Royal Pioneer incorporates the valve-in-head construction, there being no side ports or pockets, and, consequently the full force of the explosion takes place over the piston. These valves, too, are of great size, being one and a half inches diameter.

The valves are both mechanically operated, and are, with their springs and working parts, absolute duplicates and interchangeable. Further, by loosening two bolts, either the inlet or exhaust chambers can be removed with their valves, and the latter ground in and quickly replaced without removing or disturbing the cylinder or attachments. This is something the hard rider will appreciate. Nor are there any joints between cylinder and head to lose compression, one grey-iron casting forming these parts.

Riders familiar with valve springs weakening through excessive heat will note the arrangement of the new Pioneer motor in which the valve stems and springs are placed at right angles instead of parallel to the cylinder. Not only does this location allow free air circulation about these parts but also permits of more uniform and thorough cooling of the cylinder. No push rods are used, only pull rods, all under double spring tension, giving very quick valve action. Hess-Bright ball bearings, automobile size, are used exclusively. These are practically frictionless.

Another feature of this motor and one shown in the Triumph (English) is the domed piston, the form of which approximates the curvature of the head, allowing the force of the explosion to reach all of the dome at practically the same time. The plug is so located that the spark takes place practically in the center of head, yet is swept clean by each incoming charge. Opposite the plug is a brass petcock for priming in cold weather.

Lubrication is by a new combination of the splash and centrifugal systems; one detail of which is a trough running around the inner wall of the piston just below the rings, and which constantly fills itself with oil. Several very small holes are drilled from the bottom of this trough to the outer wall of the piston, and as the latter rises a film of fresh oil is spread on the cylinder wall. This operation is repeated at each stroke with oil not previously exposed to the heated gases, resulting in an exceedingly cool cylinder and freely moving piston. This system, modified to each particular requirement, is applied to all the moving parts; the bearings particularly being constantly bathed in a stream of cool oil which flows through drains to the base. And in the base is a beveled glass window through which the depth of the oil in the base may be noted at all times. A tap underneath permits the old oil to be drained off when desired.

This subject of oil naturally brings on that of tanks, and here, too, is found a new design—two tanks in one with both ends "torpedoed." The forward tank, on which is fastened a pump with transparent barrel, holds two quarts of lubricating oil, and telescopes into the gasoline tank, which holds two gallons of fuel. Each tank is complete in itself, and it is impossible for the oils to become mixed through leaky partitions. They are made from five-inch round seamless brass tubing. In a casual inspection these tanks appear as one, yet both may be removed by loosening of one bolt at the rear end. They are highly finished in nickel.

Believing the quantities of oil stated above to be desired by the riders, and having designed a tank for the purpose, the Royal people fitted the frame to the tank, rather than the practice of fitting the tank to the frame. The horizontal seat post allows a very low saddle position. Integral with the frame, and greatly strengthening same beneath the motor is a feature entirely new to motorcycles, but found in the higher-priced automobiles; an expansion chamber. This starts as a tube of 1¾ inch diameter, quickly spreading to a width of four inches, and, swinging under the motor, giving a chamber equal to four times the cylinder capacity, in which the gases begin to cool and contract before reaching the muffler. Thus, in the muffler there is only ordinary atmospheric pressure, and the gas passes out so cool that one's hand may be held close to the exhaust. The muffler is one of all open passages, of generous size, and is well placed.

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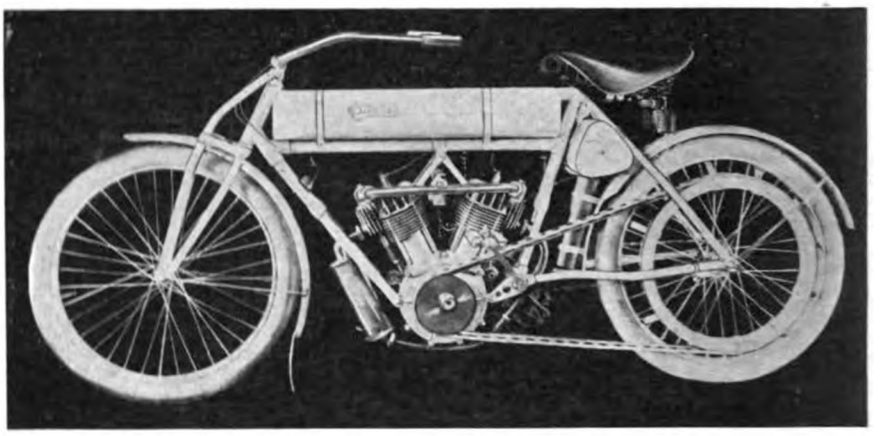
"Batteries and coils, trembler springs and screws are ghosts of the past with us," remarked one of the Royal men to a MOTORCYCLE ILLUSTRATED representative. "We have gone straight across lots to the Bosch magneto, and will equip our Pioneer with nothing but magneto. We make no provision at all for batteries." In magneto driving, however, the Pioneer shows a new feature. Concealed in the cam case on the motor, and attached to the cam shaft, is a beveled gear operating a smaller gear on a shaft which runs to the magneto. Here a gear on the rear end of the shaft meshes in a duplicate on the magneto, making a light, simple and highly efficient drive. The location of the magneto, back of the motor and out of the dust of the front wheel, but away from the heat of the cylinder, is ideal.

In carbureters the Pioneer shows originality; having furnished drawings and had the celebrated Birmingham makers, Brown & Barlow, adapt their most popular model to their machine. This carbureter is attached close to the head and behind the cylinder, which, its users claim, is the best location, both for the cooling of the cylinder and warming the carbureter. Its makers state that in economy contests abroad this carbureter has shown 187 miles to the gallon. It is fitted with an auxiliary air inlet operated at the right grip and which may remain more than half open after the machine is under way.

Double grip control is fitted, but without sliding rods and bell cranks. The Pioneer compound Spring fork contains telescoping springs capable of carrying varying loads without transmitting vibration or shocks, and stop springs for the limits of concussion. Numerous details, such as the mounting of the motor, the adjustable crankhangers, etc.. might be commented upon at length, but enough has been said to show the type and character of the new Royal Pioneer, and there is no doubt but that it will quickly make itself well and favorably known.

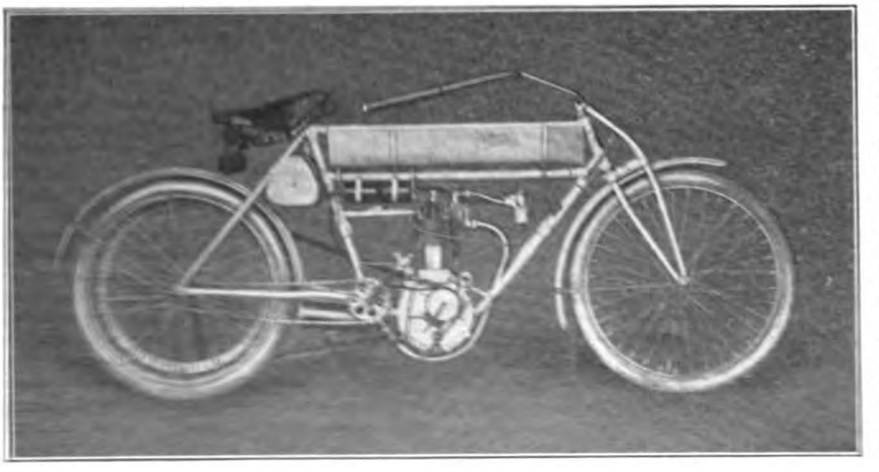
CURTISS 1909 MODELS

A BRIEF description of the new Curtiss models was contained in the January 1st issue of MOTORCYCLE ILLUSTRATED. Two of these machines are herewith illustrated. The single is 3 h. and the twin 6 h., each with cylinders 3¼-inch bore and stroke. They are listed at $200 and $275 respectively, with battery ignition. These models will be furnished with twenty two-inch frames, with an option, however, on the new seventeen-inch frame, and with either twenty-six or twenty-eight inch wheels. With the aid of an improved muffler and ejector these machines have been made absolutely noiseless. A very low rear saddle position and a new design of "V"-shaped handle bars, on which Rough Rider grips are furnished as regular equipment, are used.



All motors, as in previous years, are roller bearing throughout, and for 1909 a new form of piston pin construction has been adopted. On all models a hollow piston pin, which is held firmly in the end of the rod and has a very liberal bearing in the piston, will be used.

A new and improved "V" belt transmission will be fitted on all models. A general option will be given on all standard makes of tires, 2½ inch being regular equipment on twenty-six inch wheels. The rear fork stays have been made a trifle heavier all around, and a trifle heavier and stronger cable and casing in the grip control system is used. The same wide mud guards will be furnished this season. The 1909 Eclipse coaster brake will be used. A general improvement and refinement of details on all models has been made.



UPPER CUT SHOWS 4-H. TWIN
LOWER CUT SHOWS 1-H. SINGLE

Photographs of the two most interesting Curtiss models are not yet available. One of these is entirely new, being a three-cylinder machine of 10 h. The cylinders are set at an angle of 50 degrees, with the exhaust and intake on the sides. The same general construction of frame and engine will be observed. This machine, together with the other models, will be shown at Madison Square Garden.

The other model will have a seventeen-inch frame, and is somewhat of a radical departure from the regular Curtiss line, although it still employs the trussed frame and fork. This will be known as the "Wehman" model, and will be equipped with either 3½ or 7 h. motor (3¼-inch bore, 3¾-inch stroke). The price of this machine will be $225 (single) and $300 (twin). Where twenty-eight-inch wheels are specified on this machine magneto ignition will have to be furnished at an extra cost of $25. This also applies to all other machines except the three-cylinder. On the "Wehman" special, handle-bars and a large round gasoline tank on the top tube will be supplied. This tank is pointed at the front end.

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THE M.M. LINE

M.M. models for 1909 show many little improvements that will contribute greatly toward making these machines more and more popular with the riding public. The heads of the American Motor Company are all keen, practical motorcycle builders, having been engaged in the business since its first entry into the United States over ten years ago. The design of the M.M. enables a perfect motorcycle to be produced with the fewest possible number of parts, and the parts that are used are extremely simple. This has not been brought about by any short cut, or by any secret process, but by a careful study of the best materials, and the installation of a large equipment of machinery, a great deal of which has been specially designed and built for the purpose.

The low saddle position on the M.M. is a feature of great importance. It allows ease of mounting, absolute safety in traffic, prevents side-slipping, and being able to place both feet on the ground, and control the machine without removing either hand from the bars, wins the confidence of the new rider at once.

The M.M. stand is attached to the rear jaws of the frame. When the machine is at rest this stand is lowered, raising the rear wheel off the ground, doing away with the necessity of hunting for a post to lean the machine against. It also holds the machine in position to be tested before starting out. The stand is hooked on the back of the rear mud-guard when not in use. If the day is cold, or the machine has been standing all night, any motor will start hard, due to the cold oil around the piston and rings. Extreme cases have been met where motors absolutely could not be started until the spark plug had been removed and gasoline poured in the cylinder. A twin cylinder is doubly hard to start if cold, and gasoline has always to be applied. To provide for this, and the convenience of the rider, attached to the M.M. tank is a priming device that operates by pressing a button, allowing gasoline to flow from the tank directly into the cupped petcock on cylinder head. This little feature is of inestimable value.

One of the most important features on a motorcycle is the proper kind of spring forks. The M.M. fork is extremely simple, not varying much from the accepted type of carriage spring. The leaves are bolted securely to the drop-forged crown plate, and extended forward to the two uprights that drop to the front wheel. Two extension plates are fastened to the end of the forks and bolted to the front wheel, forming the jaws and allowing a vertical, flexible movement of the front wheel. The fork wonderfully reduces vibration without squeak or rattle of any kind.

The mud guards are very wide, preventing mud or water being thrown on the rider. The rear guard is detachable at the back stays, allowing its removal in a second, leaving the tire unobstructed for repairs, and doing away with the necessity of removing the rear wheel and the added inconvenience of relining it after putting it in place.

The motor is the vital part of a motorcycle, and no matter how good the rest of the machine may be, the whole is no better than the motor. Upon this fact is based one of the strongest claims for the M.M. The cylinders are turned from solid stock with deep flanges. The cylinder bolts pass through the flanges. The cylinders are ground absolutely accurate to size. The pistons are cast conical to prevent carbon from collecting on the top, and are accurately turned to size with ring slots lapped in. The wrist pin is covered by a protecting ring, preventing it from working loose. This form of construction does away with set screws, split pins and other unreliable arrangements sometimes work loose. The piston rings are close grained, and made specially hard to withstand all wear. After the castings are made they are bored, turned eccentric in a special fixture, and cut off .008 wide and .009 large on the diameter. Rings are then ground in a surface grinder absolutely accurate to the proper width, being held in place by a magnetic chuck, and when they come off the grinder they are as smooth as glass. They are then cut on the thinnest part of the eccentric, and are compressed into a special fixture, the shape of a cylinder. In this position they are clamped on an arbor and finished in a grinder to the exact diameter of the cylinder.

The fly-wheels (as well as all other moving parts, except the piston and rings) are made of special alloy drop forgings integral with the shaft; a two-piece construction. The gears that operate the ignition and exhaust cams are made from drop forgings. They are three in number: engine gear, intermediate gear and cam shaft gear. The gears are covered by a gear case outside of the motor, and can be gotten at very readily. The ignition and exhaust cams are made from one-piece drop forgings. The design gives a long bearing on each end of the cam shaft, adding greatly in strength and wearing qualities. The exhaust and inlet valves are very accessible, being removed by loosening one screw. The exhaust valve is 1½ inches in diameter, allowing the exhaust gases to escape almost instantly.

The gasoline tank is made from specially drawn seamless brass tubing, with spun heads. This form of construction has only the head seams, and the tank is held in place by one screw, being suspended on centers. Finished in nickel plate, it is not only durable, but adds to the beauty of the machine, as well as eliminating all possibility of breaks, dents, chipped enamel and noisy vibration.

A long series of experiments has resulted in the designing of the new M.M. carbureter, with center draft, adjustable jet (adjustable from the top) needle valve forced shut by the raising of the float, additional air admitted to the engine as throttle opens, auxiliary air variable by hand lever. By the use of the air lever perfect carburation and more efficiency can be obtained. The new carbureter is very accessible, is handsome in appearance and finish, and can be fitted to any motorcycle.

A most objectionable feature, and one that has caused a great deal of adverse legislation throughout the country, is the noise nuisance. This year the M.M. has a muffler that cannot be cut out. It is not the smallest muffler in use, but no larger than necessary to accomplish the end sought—to produce quiet running without perceptible back pressure. No difference in the speed of the machine is apparent whether the muffler is used or discarded.

On the road model, special, and one model of twin cylinder, battery ignition is fitted, using three cell standard batteries, and a four terminal jump spark coil with ball contact spark timer on the motor. On the magneto special the Bosch high tension type "D A 2" magneto is used.

The M.M. twin-cylinder is balanced so perfectly that the motor can run at 2,500 revolutions per minute, on its own stand, with hardly perceptible vibration. Another very important feature is the cooling. With the 90 degree angle of the M. M. twin, the cylinders are so far apart that free circulation of air is permitted giving equal results in each cylinder. With this design of motor it is possible to build a very low machine, and yet have ample road clearance, and this is very important when traveling at great speed. The general equipment on the M.M. twin is the same on the magneto special. A large muffler is fitted, and when running at twenty-five or thirty miles per hour it is impossible for the rider to hear the sound of the exhaust. Oil is delivered by a force fed pump direct to the oil reservoir in the crank pin. The crank pin being the hardest working part in the motor, receives the fresh oil from the pump. It is then thrown out by centrifugal force, oiling each cylinder uniformly. The M.M. twin is the most powerful machine built for road use, yet it is one of the easiest riding motorcycles ever constructed. Every part on the M.M. is interchangeable with any other like part on another machine, as every piece is made by special and automatic machinery, with variations of from only .000½ to .001 allowed.

THOSE riders of economical turn of mind will do well to write Otto W. Payne, Lock Box 212, Baldwins, L. I., N. Y., for the catalogue of accessories he has gotten ready. It is exclusively motorcycle, and its chief point of interest is in the prices quoted for standard goods. These range from eight to thirty per cent. off the usual lists. This remarkable reduction is brought about by the fact that out in Baldwins Payne pays cents where the city dealers pay dollars for rent. His plan is to sell at his catalogue prices and deliver free of extra charge anywhere in the United States. Payne is the Long Island agent for M. M. motorcycles, and to local buyers he makes a quite remarkable proposition. He offers to keep their machines in proper condition and make all repairs free of charge for the whole 1909 riding season.

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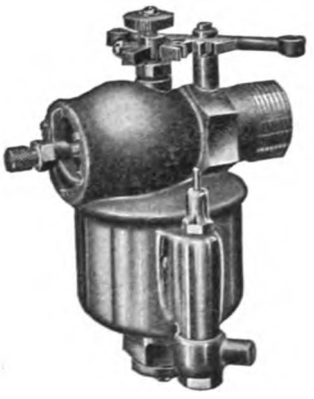
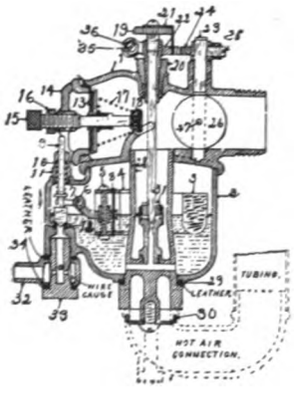
New Heitger Carbureter

THE Heitger Model C, 1909 carbureter retains all the principal features of the former models marketed by this concern but is improved, and some new and tried features have been added. This model has a mechanical control over the gasoline feed to mixture; the gasoline is positively fed to mixture, according to throttle opening and air admission. The throttle lever has a segment of a gear integral with it (23), this gear meshes into a similar one (22) on the mechanical control member. This gear segment (22) has a long shank, threaded to work in the nut (20), The gasoline adjusting stem (19) is threaded into the gear segment (22). The lower end of stem (19) is tapered to act upon the small feed hole in spray nozzle (31) and control the flow of gasoline into carbureter mixing chamber. The lower end of stem (19) is supported, and held central by a guide hole in top of nozzle (31). The gear segment (22) being threaded into nut, (20) is screwed up or down as throttle is opened or closed, admitting more, or less gasoline as the case may require.



The nut (20) is split and has a tapered head so that it can be screwed down slightly to prevent slack, or looseness in threads on the control. The spray nozzle (31) is of large area at its upper or outlet end, and has a large ring shaped opening for outlet of gasoline, and as the suction tube (28) is restricted at this point, makes a high air velocity to act upon the large gasoline opening area, intimately mixing the air and gasoline. The upper portion of nozzle is of such a construction that there can be a high level in nozzle, as the ring shaped outlet is very narrow, and the gasoline creeps to top of nozzle by capillary attraction, so that it is not necessary to have a high level in float chamber in order to get high level in nozzle.



The float is of cork, and weighted by plates (4) to enable using a rather stiff spring (10) for closing float valve (9). The float is adjusted up or down by means of the screw (5) on which the float lever (6) is threaded; merely turning this screw to right or left raises or lowers float. The float is held central with chamber by the guide pin (8) on which the float lever slides. The gasoline connection (32) swivels to any position, and has a pocket to retain dirt. The screw (33) has a strainer around its circumference to prevent dirt entering float chamber. The joints of gasoline connection are made with gaskets. The air valve is of leather, backed by a brass plate, and has bronze spring. Valve is adjusted by the screw (15). The cup (30) is for retaining a quantity of gasoline (for use in flushing in cold weather). A hot air connection is furnished when desired, to fit on where the cup (30) is, and swivels to any position.

A MOTORCYCLE spark plug is being advertised by the E. M. Benford Mfg. Co., 19 Pearl Street, Mt. Vernon, N. Y. This is a mica plug, with a removable core, that can be taken apart instantly and cleaned, and it is known as the "Monarch." It lists at one dollar. For those riders that prefer a porcelain plug the same style can be had. Both have ordinary terminal and clip connections, and can be furnished with special connections for Indian, R-S and other machines if desired.

Reliance Plugs for Motorcycles

THE Jeffery-Dewitt Company, of 217 High street, Newark, N. J., have just made the announcement that their "Reliance" spark plug, which has met with remarkable popularity in the automobile and motor boat trade, is now being made in two types especially designed for motorcycle use. The distinguishing features of the "Reliance" plug are as follows: The insulated sparking point is a hairlike platinum wire, entirely protected from corrosive action by being baked in and brought flush with the surface of the porcelain insulator. The spark, in leaving this minute point, is concentrated and intensified to such a degree that the heat and scouring action of the spark, being directed against the surface of the insulator, instantly destroys any short circuiting matter surrounding the point. Absence of short circuiting matter makes it possible to utilize the entire energy of the battery and coil to produce maximum heat in the spark, insuring regular and perfect ignition.

SHEATH TYPE.

The action is purely electrical, no moving parts or valve actions being employed. Mechanical details have been given the most careful attention, the metal parts being accurately machined and the porcelain made of a new heat proof composition. The porcelain is flexibly supported by asbestos wicking, compressed within a metal sheath, making the porcelain packing and sheath one element, which is removable.

While conducting experiments and tests, for which motors were selected noted for their fouling tendencies and spark plug trouble, it became evident that "Reliance" plugs required no attention whatsoever, and subsequent everyday service has proven that they never have to be removed from the cylinders, the fouling matter having no effect upon their efficiency.

REGULAR TYPE.

The fact that this plug sparks in water as well as in the open air, would seem to prove conclusively that it is short-circuit proof, for everyone realizes what an excellent conductor of electricity water is. Another remarkable thing is that moisture, fog or rain on the outside of the plug has no effect upon its operation.

The "Sheath" type of this plug is gaining great popularity in Great Britain, large numbers being exported to that country. The cylinder end of the porcelain in this type is completely encased in a metal sheath of special alloy, which not only protects it from the heat, but acts as the grounded electrode. The "Regular" type is equipped with the regulation ground wire set in the shell.

THE New Departure Mfg. Company are putting out a handsome new stand for displaying their bicycle bells, bicycle coaster brakes and front hubs. The stand is a new design and is already extremely popular with the trade. It is larger and more elaborately gotten up than any of the several stands heretofore designed by the company. It is highly finished in nickel or bronze and the center plate is enamelled in brilliant red, green or blue. The bells are easily attached or detached. A complete coaster brake and bicycle front hub are mounted in the center plate, strongly bringing out the attractive design and finish of the goods. The company announces that, upon request, they will supply a coaster brake shell so slotted as to reveal the mechanism of the brake. The dealer who has such a display can very easily demonstrate to a prospective customer the simple operation of the brake. A bell stand can be secured from jobbers with orders of bells: or dealers may address the New Departure Mfg. Company, Bristol, Conn., direct. The stand is furnished by the manufacturer, stripped of bells.

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DESCRIPTION OF F. N. SHAFT DRIVE SINGLE

OVER four years ago the big gun makers of Belgium, the Fabrique Nationale d'Armes de Guerre, produced for the first time a shaft-driven motorcycle. In this first machine they employed a four cylinder engine (also used for the first time in motorcycle construction), as they did not believe that an engine of the single or twin cylinder type could be used with the shaft-drive transmission. At first this novel form of transmission was criticised severely, motorcycle experts making the statement that such a transmission could not survive the impulses of an internal combustion engine. Experience has proved the soundness of the judgment of the F. N. engineers, for the shaft drive, although an expensive construction, has been acknowledged the world over as being the ideal transmission for a motorcycle, and now, in 1909, the F. N. have succeeded in making a practical single cylinder employing this form of transmission. At the Stanley Show, recently held in London, this little machine was the centre of attraction, not only on account of the novel principles employed, but also because of the magnificent material and workmanship for which the big gun makers are noted.

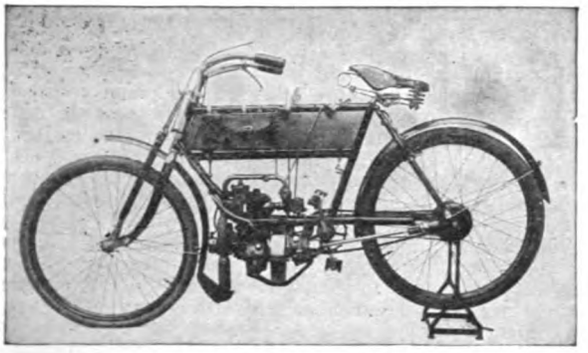

FIG. 1. THE SINGLE-CYLINDER F. N.

Fig. 1 shows the machine as a whole. It will be seen that it resembles somewhat the single cylinder motorcycle marketed by the F. N. last year. The resemblance, however, ceases with the spring fork and the frame design. Instead of setting the engine with the plane of the fly wheel parallel to the plane of the two wheels of the motorcycle, it is set at right angles to this position.

Fig. 2 shows the power plant. The engine has a mechanically operated inlet valve with an outside fly wheel. There are three flexible or universal joints employed in the construction. The first universal joint separates the fly wheel and clutch mechanism from the gear box; the second is between the gear box and the shaft drive; while the third divides the shaft from the rear driving gears. The idea of employing three universal joints is to make the shaft-driven motorcycle as flexible as any other type of motorcycle in spite of the rigidity of the transmission. As there is very little motion indeed to these flexible joints, and as they are of the best material, there can be practically no wear. To render the transmission even more flexible, the shaft itself is slightly telescopic, to take up inequalities on account of springing or other causes.

One of the most remarkable features of this new machine is the extreme lightness, in spite of the fact that a comparatively heavy type of transmission is used and a two-speed gear is employed. The 1¾-h. F. N. Lightweight marketed last year, employing a belt transmission, weighed 110 lbs., while the new shaft-driven lightweight weighs less than 120 lbs. This is actual weight, not catalogue weight. It would not be possible to accomplish this remarkable result were it not for the fact that the entire transmission, wherever possible, is made of the very best chrome nickel steel. On account of the extreme hardness and tenacity of this grade of steel the gears themselves may be made very small and light, while the shaft, which does the driving, is merely a hollow tube.

The outside fly wheel construction enables the weight to be cut down, in other words, a fly wheel of large diameter may be used and the weight concentrated in the periphery. In this manner a fly wheel of comparatively light weight serves the same purpose as two very much heavier fly wheels located in the crank case of the engine. And, in accordance with a practice the F. N. Company have now used for over four years, there is a window in the side of the crank case, so that the amount of oil may be ascertained at any time.

The clutch, by means of which a free engine may be obtained, is a leather-to-metal clutch, and is operated, together with the gears, to obtain the two different speeds, by means of the compound lever on the upper horizontal bar of the machine. By the unique employment of a spiral groove the tendency of the engine when driving the machine is to tighten the clutch. This construction ensures the clutch remaining engaged until it is released by the operator. In other words, whatever the condition of the clutch circuit there is no danger of its slipping unless the leather is depressed.

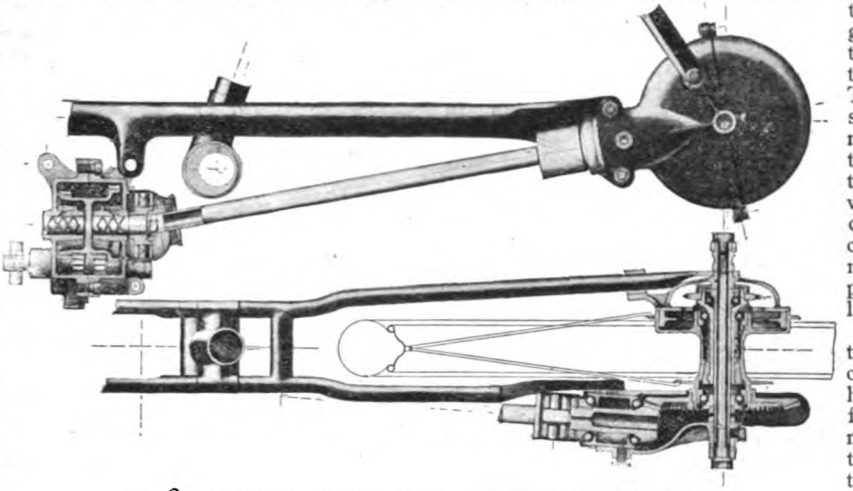

FIG. 2. SHOWING CHANGE-SPEED AND TRANSMISSION GEARS

For the first time in the history of motorcycling sliding gears have been employed for the two-speed mechanism instead of the planetary type of transmission. It is well known that there is considerable friction in the planetary type, when the machine is running on the low speed, owing to the large number of gears which are in operation. In the sliding type of transmission gear the

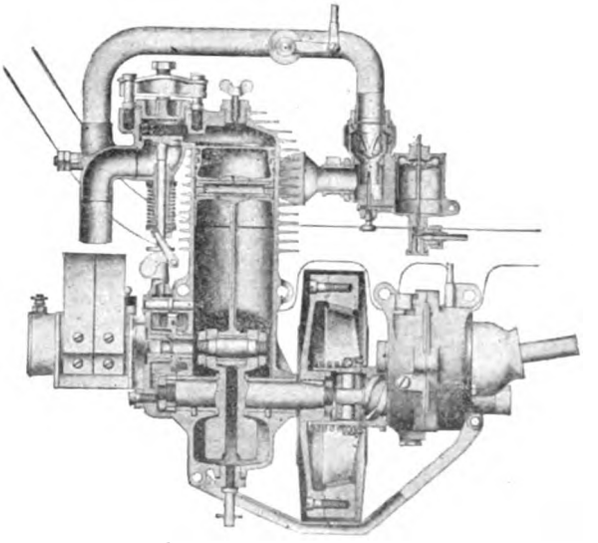

FIG. 3. POWER PLANT AND CLUTCH

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engine is in direct connection with the rear wheel when either the high or the low speed is used. In other words, as far as the frictional resistance in the transmission is concerned, it makes no difference whether the machine is operating on the high or the low gear. When it is desired, therefore, to go slowly, such as in traffic or for city use, the low gear may be used continually without unnecessary friction occurring in the transmission and without overheating the engine, since the engine itself is so very small in comparison with the enormous cooling surface. Furthermore, if it is desired to examine the gears or flush them out with kerosene or inject a lubricant, a small hand hole cover may be removed and the condition of the gears ascertained without taking down the gear box itself. If, on the other hand, it is desired to take the gear box directly out of the frame, it may be done without interfering in any way with the rest of the mechanism. On the high speed the ratio is 1-6, which is the same gear ratio employed on the F. N. Big Four, while on the low speed it is 1-10. On account of the very low gear on the low speed and the power of the engine, combined with the lightness of the motorcycle, this machine will take any hill that any motorcycle can negotiate. Furthermore will take it with a greater degree of certainty and comfort to the rider.

The magneto employed is the Bosch, being of a special design for this machine. The ignition is fixed, that is, it cannot be advanced or retarded. In operating the F. N. Lightweight it is only necessary to vary the position of the throttle and change the gears to obtain any speed from one mile an hour up to the full speed of the machine. On the high gear, the maximum speed is forty miles an hour. This is a remarkably high speed for such a light machine.

Although not shown in the illustration, the new F. N. Lightweight is fitted with the same luggage carrier as that employed on its big brother, the F. N. Big Four. The same style of stand is also employed and swings up until it catches underneath and supports the luggage carrier. With the stand in the upper position the carrier is so rigid that it may be used temporarily as a tandem seat, having ample strength to sustain an additional rider.

The F. N. Company, having found the internal expanding drum brake, used on the Big Four, most satisfactory, have employed this same brake, built, of course, on a diminutive scale, on the new lightweight. In addition to this powerful drum brake, there is also an emergency or auxiliary brake. The drum brake is actuated by pack pedalling, while the emergency brake operates from a bowden wire on the handle bar.

The method of oiling is unique, since both an automatic and a mechanical hand-operated oil pump are employed. The automatic oiler is set to oil the machine under ordinary working conditions, and it is not necessary to employ the hand pump unless the automatic oiler becomes deranged or an unusually long and steep hill is encountered. The employment of hand-operated oil pump in connection with an automatic oiler seems to be a step in the right direction, for any automatic device is liable to become deranged, and where both systems are employed it is always possible to fall back upon the simpler and more reliable hand pump.

The F. N. Company have built no less than six different models of this machine before putting it on the market, and the machine which will be exhibited at the New York and other automobile shows is one which has actually been run over one year. It has been cleaned up, re-enamelled and new tires fitted.

Simplicity of construction has also been made a feature of the new lightweight. Only three spanners, or fixed wrenches, are used to detach every nut on the motorcycle, and as far as possible a certain size of screw or nut has been made to serve as many purposes as was found practical. For instance, the same screw which holds the tank in position also holds the crank case of the motor together and the two halves of the transmission housing.

This machine is not designed for great speed or power. It is purely a touring motorcycle; but in spite of the fact that it is of light weight and of comparatively low power, it will go at a speed which is sufficient for even extended touring, and on account of the two-speed transmission it will take the longest and steepest hills with the utmost ease. As to its hill-climbing ability, Mr. Ovington tested the machine very thoroughly upon the occasion of his last visit to the factory and states positively that it will negotiate with ease the famous Morey's Hill, met with in the 1907 F. A. M. Endurance Run, and Hensenville Mountain, which was encountered in the 1908 F. A. M. Endurance Run.

The last, but not least interesting, feature of the 1909 F. N. Lightweight is that the price is low when the type of machine and the magnificent material and workmanship are considered, namely $275. Take any machine—single cylinder—add a Bosch magneto and a two-speed gear and you will equal this price and still not have the shaft-drive transmission, the combined stand and luggage carrier, the spring fork and many other features which make this new-comer such a remarkable little machine.

Union Wheel Co. Will Make Motorcycles

RIVERSIDE, Cal.—Riverside's fame as a motoring center will be materially increased the coming year because of the decision of the Union Wheel Company to manufacture motorcycles here. This move has been considered for some time, ever since H. Kohl arrived from San Francisco and assumed management of the company that was formed several months ago to go into the motorcycle repair business on a large scale.

The business of turning out motorcycles will commence in real earnest after the first of the year. One wheel of well-known quality has already been turned out by the Union Wheel Company, the Kohl Special, which won the motorcycle event in the last Box Springs hill-climb.

Single cylinders of from 2¼ to 4-horsepower and doubles above 4-horsepower will be turned out by the local factory. These will be made to answer every requirement, not only for speeding, but for business purposes. Mr. Kohl states that machines of both belt and direct-chain drive will be manufactured.

All baking and enameling will be done here, an oven of from eight to ten frames capacity being now under construction. This line is one of Mr. Kohl's specialties, and is bound to be a prosperous feature of the business.

In order to accommodate the new enterprise the Union Wheel Company will have to have more room, and is now considering an option it has secured on the room at 587 West Eighth street. This connects with the quarters now occupied by the company on Orange street.

The number of motorcycles now owned in Riverside is surprising, and they are becoming increasingly popular. There are 151 machines now registered at the police station. The city is now a great center for the sport, and headquarters for repairs and supplies for neighboring cities, such as Colton, Hemet and Corona.

Four 1909 Wagner Models

THERE will be four Wagner models this year, all of which will be shown for the first time at the Chicago show next month. The 2¾-h. Roadster will be practically the same as it was in 1908, though a number of minor improvements have been made which will bring the machine up-to-date in appearance. The price of this model will be $175, and the output will be limited. All three of the other machines will have 3½-h. engines, 3¼x3¼, automatic inlet valves, battery ignition, and float feed carbureters. The Tourist model will be listed at $200, and Semi-Racing at $210, and a Ladies' drop frame model at $210. No radical changes have been made in the motor outside of the increase in dimensions. Inlet valves will be automatic. The diameters of both inlet and exhaust valves have been increased. The exhaust lift will be by arm and roller principle. Cylinders will be white nickel and crank case buffed.

Tanks will be of new design and larger capacity; fuel and oil will be separate. The capacity of gasoline tank will be two gallons; lubricating oil. one gallon. Lubrication will be by sight feed or vacuum force pump. Double grip control, right grip operating throttle, left grip controlling spark advance, exhaust lift and automatic circuit cutout. Mud guards will be wider and heavier. Handle bars longer, with Rough Rider grips. Saddle position will be low, but not extreme. The height of frame will be 20". Transmission will be by ⅞"-28° Rubber V Belt; 2¼" M. & W. Basket Weave tires and Troxel motorcycle saddles will be regular equipment, with the exception of the Semi-Racing model. This model will be furnished with extra rear seat attachment, giving extremely low saddle position, extra long handlebars, and 2¼" Bailey Tread tires. Stand will be furnished as part of the regular equipment. Mud guards and stand will both be fastened to special lugs on fork ends, permitting removal of rear wheel without interfering with either.

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Some New Specialties

HEREWITH are illustrated some of the Widmayer specialties for motorcycle use. Fig. 1 is a lamp bracket, designed especially to go on the head of the Indian. It will take Solar and other similar style lamps, and is listed at sixty cents. Fig. 2 is a Yale switch, made up to fit in the head of the Indian battery tube. With it, it is an impossibility for any other than the person with the proper key to turn the switch and close the ignition circuit. This device retails for six dollars. Figs. 4 and 5 are emergency pedals, selling for thirty-five and sixty cents respectively. All these, and many more,

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

specialties are described in Widmayer's catalogue. This can be had for the asking. Write the F. B. Widmayer Co., 2312 Broadway, New York City, for it.

Six Thors at Madison Square

THE Aurora Automatic Machinery Company will exhibit at the Madison Square Garden show six different models of motorcycles, ranging in horsepower from 2¼ to 6. Three will be single cylinder models 2¼, 3 and 3¼, and three will be twin cylinder models, all 6-h., two of them geared transmission and one with belt transmission.

In most of these models they will show new design of looped frame construction, having short seat mast, so that the height of the top of the saddle is but 31 inches from the ground. By the arrangement of the downward curve of the top bar at the seat mast the saddle has the same low position whether extended to the front or rear, which permits a man with short legs or short arms to have the same comfortable position on the machine as the tall man.

A new conception adapted to the frame is a clamping device for holding the seat post, which allows quick and convenient adjustment for height and which is designed to overcome twisting of the seat post, a feature long desired by those who have been riding motorcycles.

They will show improved designs of their Aurora spring forks and the Thor pneumatic cushioned forks. The Thor pneumatic cushioned fork has been given a greater range of action, having the stroke of the piston increased 50 per cent. and having the various parts made adjustable. All possibility of the hinged joints wearing is eliminated by the use of ball bearings. The models will be equipped with "V" shaped handle bars, and also a new design of bar called the Thor standard, which is given as an option. An entirely new oiling device will be shown, and the new motors are built with large exhaust valves and large exhaust tubes.

On the belt drive model will be shown a very neat arrangement for the protection of the rider against splashing of oil, and the shaft to which the motor pulley is attached will run in a double set of roller bearings. Magneto ignition models are so arranged that the motor and magneto are practically a unit, the magneto being built in the base of the motor.

This company will also exhibit a complete motorcycle, cut away in such a manner that every action of the motor can be seen by the observer, which will be very interesting to those not thoroughly familiar with the operating of a motor, and will also permit one to examine the working parts as well as the outside finish. Handle bars, frame, frame tubes, carbureter, motor, geared transmission, and so forth, will be cut out in sections so that every part can be closely examined.

New Thor Salesrooms in Chicago

SO rapid has been the growth of the motorcycle business within the past year in Chicago that John D. Hurley, vice-president of the Aurora Automatic Machinery Company, which manufactures the Thor motorcycle, has been compelled to seek new quarters for the disposition of their output on Michigan avenue. Arrangements were completed recently for the reconstruction of the building at 1307 Michigan avenue, upon which work will begin February 1.

It is proposed to extend the main floor of the present building to the street line, to provide a salesroom which, when completed, will have a frontage of twenty-five feet and a depth of 131 feet. It is the intention of the company to remove their entire staff to the new building and occupy the second floor for their executive offices.

The concern manufacturing the Thor is owned and officered by Chicagoans, although James B. Brady, who is president of the company and is familiarly known as "Diamond Jim," is a New Yorker. Among the prominent Chicagoans interested in addition to Vice-President Hurley are former Mayor John P. Hopkins, W. O. Jacquette, John M. Glenn, A. B. Holmes, President Rosenwald, of Sears-Roebuck; M. S. Rosenwald, of Rosenwald & Weil; Simon Florsheim, and J. J. McCarthy.

The Aurora Automatic Machinery Company employs about 500 men manufacturing the products bearing the Thor trade mark, which include, in addition to motorcycles, piston air drills, pneumatic reaming, tapping flue rolling, grinding, and wood boring machines; pneumatic riveting, chipping, calking and beading hammers; pneumatic saws, hoists, motors, air hose, couplings and air compressors.

Hilaman Markets Pulley

ONE of the first American manufacturers to market a variable pulley is the A. L. Hilaman Company, of Moorestown, N. J. This pulley will be part of the equipment of the "Dependable Hilaman" motorcycle for 1909, and is adaptable to any machine. It is made of high grade steel, gives a change from 4½ to 1 up to 3 to 1 and can take any size 28 degree V belt. One of the strongest features of this pulley is that in changing the gear ratio the belt need not be removed from the groves; no pinching of fingers to get the belt off is necessary. Therefore, there is no straining the life out of the belt, or springing the frame out of shape in efforts to run it off the pulley. Figures 1 and 2 show the pulley in open and closed position; figure three shows its several parts. The pulley will be fitted for seven dollars.

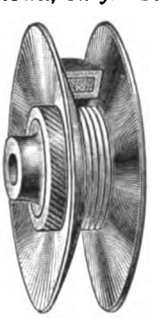

Fig. 1.

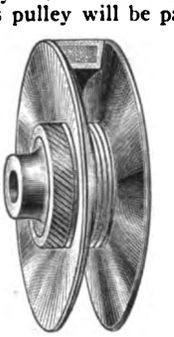

Fig. 2.

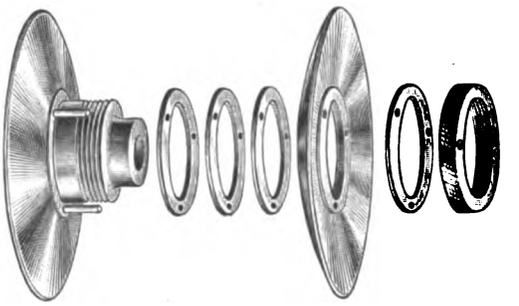

Fig. 3.

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America's Best!

1909 "R-S"

Fourte

The Most Advanced Quality

"R-S" Mechanical Intake-Valve

Belt and Chain Drive, Loop Frame Models, Diamond Frame Models, Delive Models. Single and Twin Motors from three to seven and one-half horse p "R-S" machines. The celebrated and successful "R-S" Mechanical Intake-va speed Gear—Improved "R-S" Muffler, twenty-six inch wheels, with large tire of gravity, Low Saddle Position without marring beauty of frame design; also patented and exclusive features, improvements and refinements, keeping the

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Our manufacturing policy: **Quality Above Everything Else**

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Motorcycles

Built and Tested in the Mountains

Models

ıe for the Progressive Dealer

tors, Magneto or Battery Ignition

ın Models, Tri-car Models, Chaircar Models, and Tandem Models. Fourteen ranging from $185 to $350. A line full of new features exclusively used on otors, New "R-S" Carbureters, New Pneumatic Springfork. The "R-S" Two- roved "R-S" Oiling System, Superior Frame Constructions, assuring low centre Ignition Distributing System for twin cylinders, as well as many other original, ' line in advance of all others, and the standard motorcycle of America.

Big Wheel for 1909

Our selling policy: **Protection to Our Selling Agents**

ırd Company

ınsylvania

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THE Geo. V. Lyons Motor Co., 87th Street and Broadway, New York City, has secured the selling agency for the G. & A. motorcycle carbureter. This is a production of the famous French makers of automobile appliances, Grouvelle and Arquemborg. It is entirely automatic, requiring no adjustment for high or low speeds, nor for hot or cold weather.

The automatic air is obtained in a very simple and effective manner by the use of a ball cage above the gasoline jet, which is pierced with holes of different sizes, these being stopped by balls of different diameters and weights. As the speed of the engine increases and a greater amount of air is required, the lightest ball lifts, allowing a certain amount of air to slip by it. As the speed is further increased, other balls lift and increase the area of the air space. The weight of the various balls having been determined with scientific accuracy, a perfect automatic action is obtained.

Another important feature of the carbureter is the shape of air passage and the location of the jet. It is a well known fact that more air, gas, or liquid can pass through a cone than through a straight opening, and this principle has been used in designing this carbureter. The nozzle is located in the restricted part of the main air inlet and therefore makes a stronger suction. This, together with the auxiliary inlets above makes a carbureter which is very flexible, and which will give uniform mixtures regardless of the speed of the motor.

TUESDAY, January 5th, the House of Splitdorf—so well entitled to that name—celebrated its fiftieth anniversary. For fifty years the concern has been in business, located at various points, always growing, always expanding, ever on the alert to bring its product up to date. Fifty years is a long record for an American business house, and very few commercial concerns in this country have surpassed that record. Whenever they do, it shows great talent on the manufacturing end, and unfailing intelligent enterprise on the selling end. The Splitdorf people, these late years, have been a large factor in the automobile and motorcycle trade. At present they are located at Walton avenue and 138th street, where a splendid new factory was put up only a few years ago, and they maintain a store at 1679 Broadway. In the motorcycle field their spark plug is known from coast to coast.

GEO. W. SHERMAN, general sales manager of the Aurora Automatic Machinery Co., has arranged that the New England trade can get prompt attention and service in deliveries of Thor motorcycles and parts by establishing a Thor branch at 258 Columbus avenue, Boston, where a stock of Thors and parts will be carried in stock. E. H. Corson, one of the oldest motorcycle dealers in the country, has given up the Indian agency to look after the Thor interests in Eastern New England, and when not traveling can be found at 258 Columbus avenue.

FOR twenty-five years Clum & Atkinson, of Rochester, N. Y., have been making castings in aluminum, brass and bronze. Recently the concern has turned its attention toward the motorcycle trade, and manufacturers in the market for die-cast bearings are assured of high-class work and prompt deliveries from the Rochester plant. Especially recommended by Clum & Atkinson for important bearings are their "Plata" white brass and "Superior" babbitt metals.

ATTENTION of riders, agents and jobbers is called to the advertisement of Stevens & Co. in this issue. This shows two new brass horns that have been gotten up especially for motorcycle use. Both are of new design, with fine flexible tubing for the bends and large bulbs of the best grade rubber. The tone is deep; but loud. One of the attractions also, is the low price at which the horns are listed.

AN Excelsior distributing branch has been established in Denver, Colo., with Perry A. Mead as general manager. Manager Mead is well known in the trade, having formerly been manager of the B. F. Goodrich Co.'s Denver branch.

THE Reliance Motorcycle Company was incorporated with a capital stock of $15,000 November 1, 1902, and moved to Owego, N. Y., January 1, 1908. This company has worked full time all during the past year, and much overtime, increasing its force from eight to twenty-three men, with an average number of fifteen men for the year. About October 1 they purchased the building at 444 Main street, which they now occupy, together with two and one-half acres of land adjoining; with a frontage on Main street of 200 feet and 250 feet in the rear, adjoining the Erie railroad. Since the purchase of the property the company has erected a large up-to-date factory of concrete blocks, one story high, having a frontage of ninety feet and a depth of thirty feet, with two wings, 95x30 and 70x30 respectively, with a court thirty feet wide between, thus giving light on all sides of the building. It is now about ready for occupancy, and additional machinery will be installed and the working force increased. The company has orders on its books at the present time amounting to nearly $12,000, and anticipates doing a business of about $75,000 during the coming year. Five new models will be brought out, as described in the last issue of MOTORCYCLE ILLUSTRATED, and exhibited at the New York Show.

WICHITA, Kans.—The Wichita Bicycle and Sporting Goods Company has leased the building at 222 East Douglas avenue, and in a short time will open a wholesale and retail motorcycle house. Their present retail store at 230 North Main street will be continued, but the larger part of the motorcycle business will be transferred to the new location.

It is the intention of F. W. Hockaday, manager of the company, to send out a number of traveling salesmen, who will cover the entire southwest. The best motorcycles manufactured will be kept in stock and also a complete line of repairs and sundries. A force of repairmen will be employed under the direction of Mr. Webb, the well-known automobile racer. Mr. Webb has had many years' experience in this kind of work, and knows the machines in every detail.

Mr. Hockaday is confident from the great popularity of the motorcycle that they will be able to sell several hundred machines during 1909. Mr. Hockaday expects to attend the Automobile and Motorcycle Show in Chicago in February.

BROCKTON, Mass.—It has been reported in a Waltham newspaper that the American Motor Co., makers of the Marsh motorcycles, are intending to remove their business from this city to Waltham. Sales Manager R. A. Pickens denied the truth of the report in an interview recently. "Not only will the firm continue to manufacture motorcycles in the Centre street factory," said Mr. Pickens, "but it will also increase the amount of output."

The firm is now doing more work than it has ever done, December sales being larger than those of any December yet. The spring deliveries will begin January 15. There are now 90 employes at work in the factory, and it is said that this number will be increased to at least 150 in the future.

THE San Diego Cycle & Arms Company have recently added motorcycles to their large stock of sporting goods. The agency for the R-S line has been secured, which is one of the most popular machines in Southern California. This concern has also secured the Pierce four-cylinder local agency, and will have the first of these machines on the floor early next month.

CHAS. E. MILLER & BRO., the Washington, D. C., Indian agents, have extensive improvements under way that will, when finished, make their show-room one of the neatest in the national capital. Despite the lateness of the season machines are being sold and delivered in goodly numbers.

THE "K. & R. Conversion Set" is advertised in this issue. This is a device that can be applied, at a nominal cost, to any machine to convert it into a two-speed and free-engine motorcycle. Great things are claimed for it. Booklet can be obtained on request to Keller and Risque, St. Paul, Minn.

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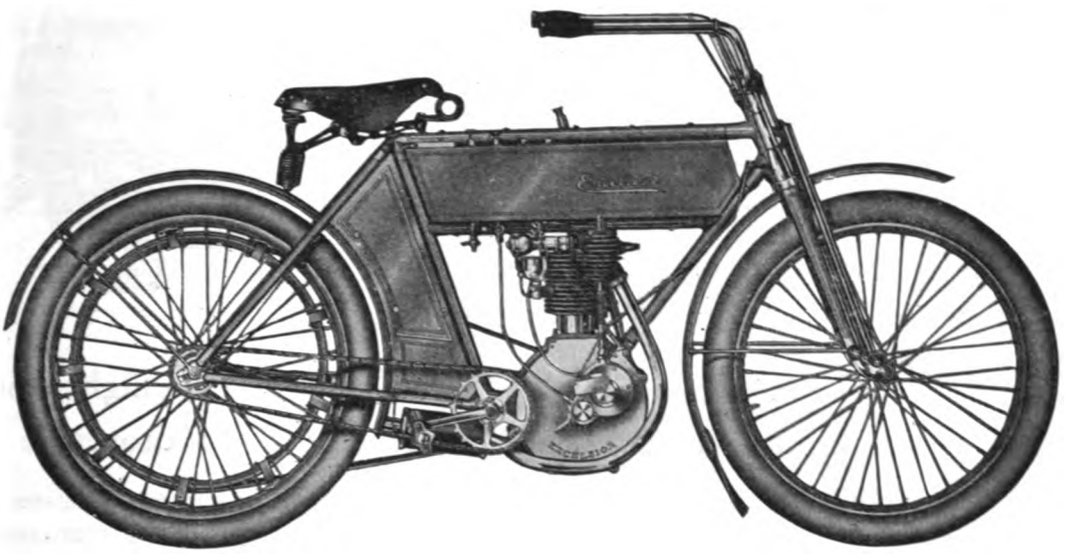

Motorcycle Dealers

Do you know that

EXCELSIOR DEALERS

are ***Prosperous Dealers*** and that satisfied owners have made them so?

Excelsior Auto-Cycles

have been tried in every kind of real practical service and have made good every time.

Our 1909 Line and 1909 Proposition will be the best ever offered and will be backed by the experience, resources and business integrity of a company of thirty-two years standing.

EXCELSIOR AUTO-CYCLES

will be sold by established dealers only, no curbstone brokers or pocket agents, and at a fixed and invariable price.

If you mean business, so do we. Let's get together.

Excelsior Supply Co.

233-237 Randolph Street **Chicago, Illinois**

Established 1876

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We Exhibit

At Madison Square Garden Show

Our 1909 Line

Consisting of three singles and two doubles.

"They Are Worth Looking At"

If you are not in attendance at the show, send for our advance sheets.

Reliance Motor Cycle Co.

440 Main Street

OWEGO, N. Y. (TIOGA CO.)

BE SURE TO SEE

Simplex Motorcycles

at the GARDEN SHOW

ALSO THE LATEST

SIMPLEX ACCESSORIES

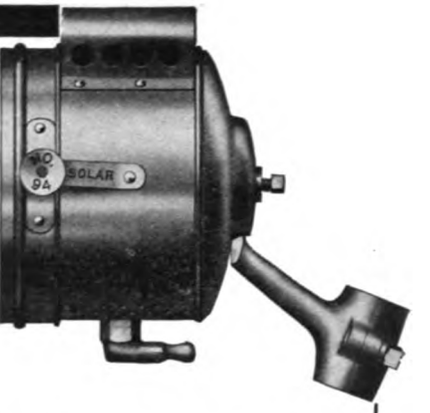
PROSPECT MOTOR CO.

1900 Broadway, New York City

CHICAGO, January 1st.—After having visited many of the Indian motorcycle agencies through the country, Fred Huyck, who holds the world's record on a motorcycle, arrived in Chicago recently and spent New Year's day with John T. Fisher, manager of the Chicago branch of the Hendee Manufacturing Company, makers of the Indian. "Business in Indian motorcycles is humming in all quarters," said Mr. Huyck. "The motorcycle is in big demand on the Pacific coast, and the promises for 1909 are exceedingly bright. From my observation, however, none of the agencies or branches has anything on the Chicago manager. The record scored in this city was beyond the expectations of the manufacturers, and the indications are that Mr. Fisher will double his sales the coming year."

THE B. F. Goodrich Company has filed plans for a new twelve-story building at 1780 and 1782 Broadway, New York City. The company recently bought the plot, which has a frontage of 53.10 feet and a depth of 106 feet, and the total investment when completed will be $200,000.

At Last



A Perfect Headlight and Generator for Motorcycle Use

The new Solar Headlight and Generator is built to outlast your machine. It is constructed with the same care, skill and quality in material that has made Solar motor car lamps the Best in the World.

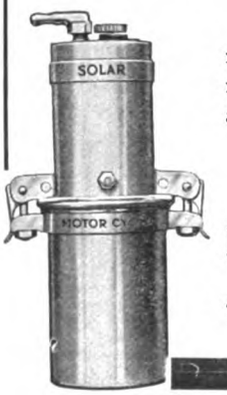
Solar Lamps "SHOW THE WAY"

HEADLIGHT

The Solar Headlight will stand the hardest usage—the most severe vibration has no effect upon it. It is the most powerful headlight of its size in the world. There is no headlight that can even approach it in actual lighting efficiency.

The Generator has the largest capacity and the best system of gas generation on the market.

The Searchlight type lens mirror headlight is the same in construction and design as the famous Solar Motor Car Headlights.



Write at once for particulars regarding this Headlight. Makes night riding as safe and comfortable as in the day.

When ordering state make and model of your motorcycle so we can supply proper bracket.

Badger Brass Mfg. Co.

TWO FACTORIES:

433 Eleventh Ave., New York City

Kenosha, Wis.

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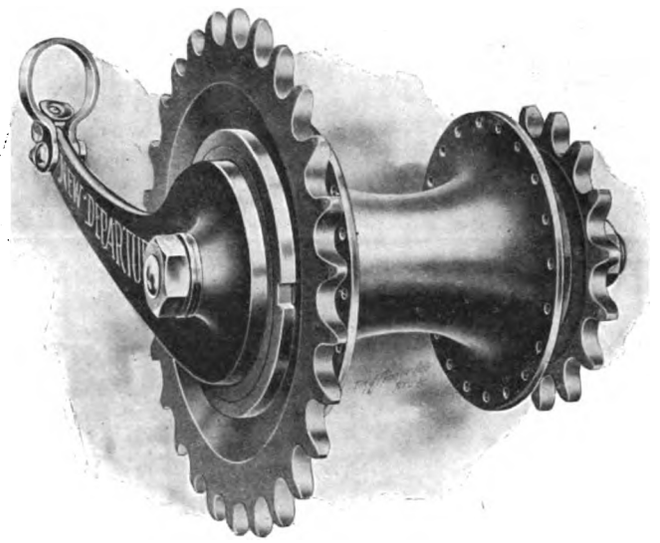
New Departures

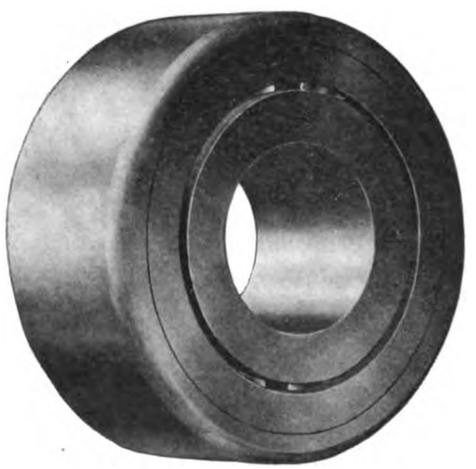
At Madison Square Garden Show, Space 521, Basement



Model BB for Chain Drive

Coaster Brakes for Motorcycles

The 1909 New Departure coaster brake for chain and belt drive motorcycles completely meets the demand for a strong and reliable coasting and braking device. It is an ideal equipment for any motorcycle. Fully guaranteed.



"Two-in-one" Annular Ball Bearings

New Departure ball bearings are being successfully and economically used in the bearing points of motors in motorcycles. They are particularly adapted for the reason that they are the only bearings that take loads from any angle with equal efficiency.

See the remarkable demonstration of this distinctive qualification at the Madison Square Garden Show. Ask for new catalogue.

THE New Departure Mfg. Co., BRISTOL, CONN.

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SPE

G&J

a

G & J Double

The Combination
For Motorcy

This motorcycle rim has proven to be the safest and most satisfactory rim on the market and is used as standard equipment by most all of the manufacturers. It holds the tire on firmly and also prevents sand and dirt from working into the channel of the rim and damaging the inner tube. Owing to the construction of this rim it is very strong and rigid and does not dent easily or get out of true, and the ends of the spokes cannot damage the tire.

See Our Exhib

G&J T

Indianap

DETROIT, 256 Jefferson Ave.
CHICAGO, 1434 Michigan Ave.
NEW YORK, 10 W. Sixtieth St.
SAN FRANCISCO, 414 Van Ness Ave.
DENVER, 1541 Cleveland Place.
BUFFALO, 912 Main St.

PHILADELPHIA
LOS ANGELES,
MINNEAPOLIS,
OMAHA, 1608 H
ATLANTA, 35 N.

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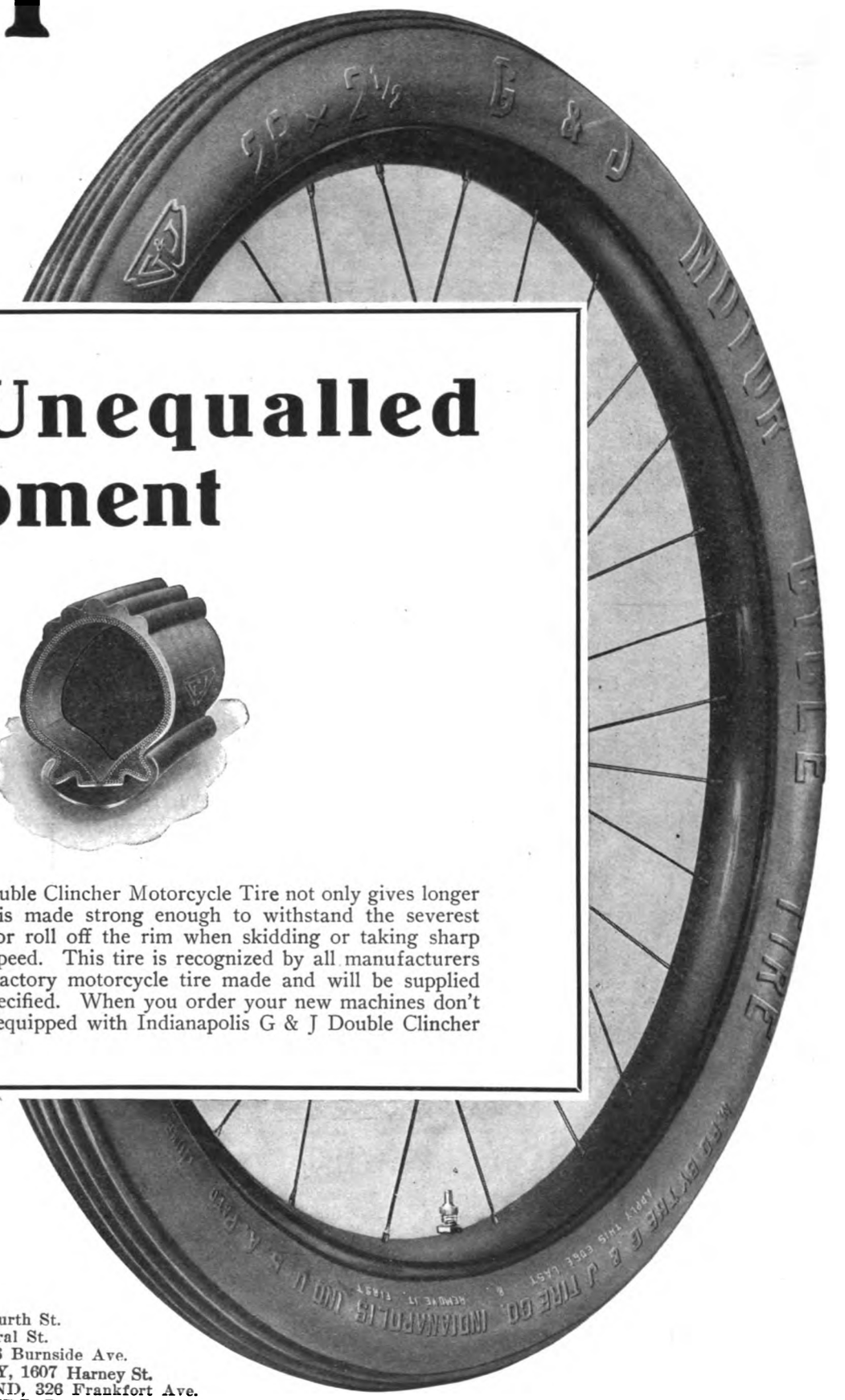
CIFY

TIRES

ıd

Clincher Rims



That's Unequalled
ıle Equipment

The Indianapolis Double Clincher Motorcycle Tire not only gives longer and better service, but is made strong enough to withstand the severest strains. It cannot pull or roll off the rim when skidding or taking sharp turns at a high rate of speed. This tire is recognized by all manufacturers as being the most satisfactory motorcycle tire made and will be supplied on any machine when specified. When you order your new machines don't overlook ordering them equipped with Indianapolis G & J Double Clincher Tires and Rims.

t at the Shows

IRE Co.

olis, Ind.

713 Broad St.
010 S. Main St.
21 S. Second St.
rney St.
Pryor St.

ST. LOUIS, 415 N. Fourth St.
BOSTON, 110 Federal St.
PORTLAND, 326 Burnside Ave.
KANSAS CITY, 1607 Harney St.
CLEVELAND, 326 Frankfort Ave.
PITTSBURG, Baum and Beatty Sts.

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WITHIN THE FOLD

DAYTON, OHIO.—Harry A. Gross, a local club member and agent for R-S motorcycles, made the journey from this city to Reading, Pa., and return, during the latter part of November on his R-S machine. He made the trip for the purpose of closing up with the Reading Standard Company for the 1909 representation of that concern in Dayton.

MILWAUKEE, WIS.—Captain Ralph Sporleder, of the Milwaukee Motorcycle Club, recently sold his single cylinder Harley-Davidson, and his friends wondered if he had forsaken the motorcycle as he once threatened to do; but the news leaked out last week, and was confirmed by himself—he has just placed his order for a 1909 Harley-Davidson twin with magneto.

LOS ANGELES, CAL.—Harry Merriweather and W. E. Dean, the two San Francisco riders who are making a trip to New York, left Los Angeles on December 5th with their machines loaded down with extra tires and all sorts of luggage.

SOUTH AMBOY, N. J.—James Rea is the latest convert in this town to the pleasures of motorcycling. His machine was delivered a few weeks ago and he has already made several lengthy trips on it.

JACKSON, MICH.—"Billy" Burman claims the distinction of having sold the first new motorcycle in Jackson. The purchaser was Clarence Raymond.

WASHINGTON, D. C.—John W. Thompson, of Kalorama avenue, purchased an Indian during the past week from the Miller Company.

CHESTER, PA.—George Fisher, the Yates avenue carpenter, has bought an Indian for business and pleasure.

NORFOLK, VA.—James L. Wood, a member of the Berkely Ward Fire Department, has purchased a new 2¾-h. Indian.

READERS' FORUM

INCLOSED find one dollar to pay for my 1909 subscription to MOTORCYCLE ILLUSTRATED. It is the best motorcycle paper that I ever had the pleasure of reading, and as long as I am interested in motorcycling I shall always be a subscriber. Hoping that your paper will be as good in the future as it has been in the past, and that the year of 1909 will be a successful one for the MOTORCYCLE ILLUSTRATED., I remain,
Bridgeport, Conn. E. F. PHELPS.

YOUR magazine just received from newsdealer. It is just the thing. Give us the real goods on motorcycles such as engine tips, magneto dope, coil diagrams, tips on different grades of oils, etc. Mr. Ovington on "Saddle Position" is great. Keep us posted on things across the Pond. Don't let them beat us to it. Your magazine is *it* all the way. Keep coming. Yours truly,
Bakersfield, Cal. F. ROBINSON.

PLEASE find enclosed a P. O. money order for the amount of $1.00 for a year's subscription to your paper beginning with next issue, December 15, 1908. Your paper is certainly great for the money, and I enjoy reading it very much—I can hardly wait each time until it comes.
Yours truly,
Brighton, Ind. CASSIUS TURNER.

Cincinnati, Ohio, Aug. 3.—Enclosed my renewal. Must say you have made a grand paper out of the old *Motorcycle*. The semi-monthly scheme is O. K. I also like the trade section of the paper. All the advertisements, too, are of great interest. WM. THORNTON BOGERT.

I HAVE enjoyed MOTORCYCLE ILLUSTRATED very much, but say, how do you do it for the money? It's great.
Villisca, Iowa. F. S. WILLIAMS, M. D..

MOTORCYCLE MART—IT SELLS THE STUFF

Buy; Sell; Exchange. Two Cents a Word. Cash With Copy

MOTORCYCLE WANTED in exchange for a 5x7 Pony Premo camera and outfit (new), value $56.00, 3 power Bausch & Lomb Binocular (new), value $40.00, Elgin watch (used), value $15.00, Angelus Piano Player (and music), value $150.00. "10" Bench drill press (new), $25.00, 36 inch band saw (good condition), $90.00, and 9 inch x 25 inch Barnes (No. 4½) foot power screw cutting lathe and chuck (fine condition), $70.00. Will pay difference in cash. F. J. Lamb, Grand Rapids, Mich.

FOR SALE—5h. Twin Indian, tricar and fan attachment, used about 500 miles. Enameled French gray and red trimmings. Price $250.00 f. o. b. New York. Automatic. Address care MOTORCYCLE ILLUSTRATED.

1908 M. M. SPECIAL, new 2½ inch tires, never ridden, Schebler Carbureter, complete equipment including tandem attachment if wanted. Cheap if taken immediately. Perfect order. H. L. Sargent, Salem, Mass.

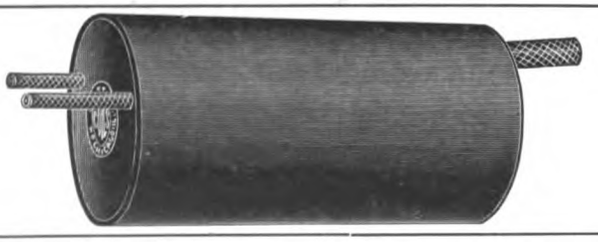
FOR SALE—One Curtiss tandem attachment, cost $15, sell for $8. Verne E. Miller, Van Hornesville, New York.

HEATH'S CHALLENGE BELTS—Auto or motorcycle; "V" or flat; any size or length; pliable as a string, grips like steel, non-slipping. State your needs, will send folder and price. Carried in stock by the Auto Goods Company, Denver, Col.; Central City Rubber Company, Syracuse, N. Y.; C. L. Smith, Los Angeles, Cal. Manufactured by Heath, 288 Columbus avenue, Boston, Mass. Also New England distributors for Thiem motorcycles. Agents wanted.

FOR SALE—Motorcycle shed. Eight by eight feet floor, seven feet high. Take down pattern. Painted. Two windows and two doors. First check for $25 takes it. Cost $65 last March. Moving West. Address 602 Conkey St., Burlington, Wisconsin.

G. AND A. CARBURETERS.—Adopted by the leading American automobile manufacturers for 1909 season. Economical, fast and absolutely automatic. Motorcycle sizes, $15. George V. Lyons Motor Company, 2384 Broadway, New York.

F. N. 1908 MODEL, in first class condition, $250. One F. N. sidecar, $50. E. H., Alexander, Lexington, Ky.



Pfanstiehl Motorcycle Coils GUARANTEED FOR FIVE YEARS

INDESTRUCTIBILITY RELIABILITY PRICE

Three reasons why you should adopt this Coil.

Exclusive equipment with seven leading manufacturers. Years ahead of any other owing to our patented system of construction. *Write for particulars.*

PFANSTIEHL ELECTRICAL LABORATORY

22d and State Streets North Chicago, Ill.

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LARGEST ASSORTMENT OF MOTORCYCLE SADDLES IN THE WORLD

MESINGER
Motorcycle SADDLES for 1909
Fitted with SHOCK ABSORBERS
Exhibit at MADISON SQUARE GARDEN
(SPACE 549)

Ask for our new Illustrated Catalogue. Do not fail to *investigate* our *new Spring System* with SHOCK ABSORBERS.

Do not buy a motorcycle if you can not have the best Saddle. There is only a little *difference* in price but all in *comfort.*

"Standard" No. 3

(Patented)

The Mesinger Motorcycle Saddles are guaranteed to wear satisfactory to the rider.

"Cavalry" No. 3

(Patented)

They have the correct shape for Motorcycle Saddles which you can not spare on your machine.

Mesinger *Cavalry* Saddles are made like a *horse saddle,* it prevents you from *slipping,* and avoids that *crampish* hold of the hands on the handle bars.

H. & F. Mesinger Mfg. Co.

1801-1803 FIRST AVENUE NEW YORK

Kindly always mention the paper when writing advertisers.

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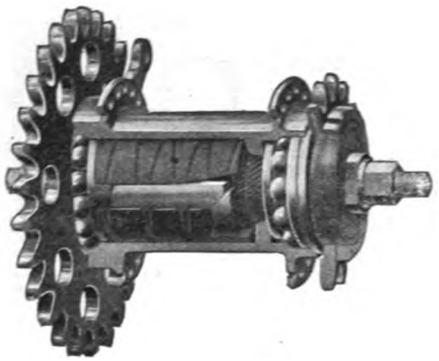
Mr. Manufacturer:

We would ask you most cordially to visit us at Space 551 in the Garden, and inspect the very complete line of Eclipse Motorcycle Hubs, Coaster Brakes, Machine Work, Head Fittings, Gear Wheels, Machine Screw Products, etc., etc., which we shall have on exhibit there.



The Eclipse Motorcycle Coaster Brake is not a Bicycle Coaster Brake made heavier for Motorcycle use. It is correctly designed for use on Motorcycles, especially adapted with Eclipse Ball Retainers which permit of a full row of ⅜-inch balls, ensuring perfection in coasting. The largest braking surface ever used. Only eight parts. No small or delicate parts to get out of order. Guaranteed for use and abuse.

Eclipse Machine Company, Elmira, N.Y.

Licensed Coaster Brake Manufacturers

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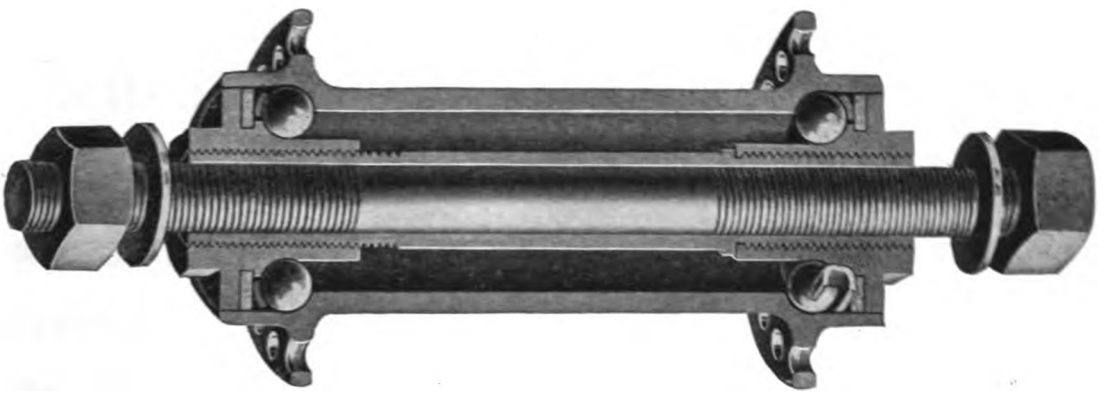
Mr. Motorcyclist:

We extend our invitation to you also. We shall have a number of representatives always on hand to answer questions and demonstrate the features of Eclipse Products, and we shall be pleased indeed to have you visit our exhibit. There are some things we would like to show you about Coaster Brakes.



The Eclipse Knock-Out Axle Front Hub is a distinct advance in motorcycle construction. This hub is turned from solid bar stock with the ball cups turned and ground in the ends. Cones are special stock accurately turned and ground. The cones screw on an inner quill threaded accurately to a wrench-tight fit. The axle slips through the centre of this quill and can be removed instantly by taking an axle nut off one side. This permits the removal of the front wheel without springing the forks over the end of the axle.

Eclipse Machine Company, Elmira, N.Y.

Licensed Coaster Brake Manufacturers

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Thor

THE MOTORCYCLES SUPREME

Inspect them with care at the N. Y. Show this week.

COMPARISON will show you WE LEAD in

Quality and Workmanship

Note with care the VALUABLE FEATURES so essential in producing

Comfort, Durability, Simplicity and Satisfaction

Yes, They Have Speed, Best of all Durability

1901 1902 1903 1904 1905 1906 1907 1908

All these years of experience are embodied in the **1909 Thor**
No record can compare with ours, as Motor Builders; thousands in use. Quality always was, Is today and ever will be our Watchword. Experienced dealers are securing the Thor line as their leader. **THERE'S A REASON.**

Advance Catalog now ready

Aurora Automatic Machinery Co., AURORA, ILL.

Kindly always mention the paper when writing advertisers.

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Get Your Money's Worth

PERSONS CHAMPION MOTOR SEAT
LENGTH 12½" WIDTH 13¼" DIVIDED THROUGH-OUT TO STRADDLE FRAME, PATENT COMPOUND SPRINGS
NO FRICTION, SIDE SWAY OR SQUEAKING. —AVOID— IMITATIONS

When at the SHOW, the shop or the Store, Mr. Dealer, use your BRAINS! Remember that you will pay the manuacturer's price for your machines; *he* fixes it, not you. Now *you* pay, but are you going to *get your money's worth?*

Unsafe and unsound Imitations of Persons Saddles at tin horn prices are on the market this year and so some manufacturers write us they cannot afford to use many Persons. Others, more experienced, say, "We wouldn't take a chance with our trade on anything but a Persons!"

Now, you would not pay five dollars for a pair of shoes laced with pieces of white cotton string, or fifty dollars for a bicycle with solid tires, yet that is what you will be doing if you let them work off an Imitation of a Persons Saddle on you.

There's no question about the quality of *PERSONS* Saddles—there never was—there never will be, any more than there is about the LACK of quality in the imitations, and

THERE'S NOT A SQUARE MAN IN THE TRADE

who does not know it. For objects of his own he may quibble or "talk in circles," but that the *PERSONS* is the very pinnacle of saddle construction they all know and know only too well. Each saddle speaks for itself.

The point is right here: When a bicycle maker or his spokesman asserts the highgradeness of his product—when he asserts that in its construction and equipment no expense or effort is spared—when these claims are made, let the dealer test their truth; let him stipulate that Persons saddles be fitted to the bicycles or motorcycles he orders.

If they are given him without quibble the dealer may be sure that the claims are true. If, instead, there is a quibble or a refusal, the moral is as plain.

The Persons saddle IS made without regard to cost. Quality is placed above price. The bicycle or motorcycle manufacturer who does likewise cannot refuse the saddle when it is specified.

PUT HIM TO THE TEST

For 1909 Persons Motorcycle Saddles are vastly improved and refined. The stamped steel stops at the front of the girder trusses permit the spring to drop when depressed, but prevent its passing its proper position on the return. The front springs are double and divided to straddle the frame if needed and are *unbreakable*. The solid parts of the framing are all Drop Forgings. Each piece is as strong as should be and as light as it well can be. On the other hand,

THE IMITATIONS ARE FALLING TO PIECES EVEN NOW!

Some manufacturers insisted on testing before buying and *then* bought—*PERSONS!* Now *you* see that you *get a Persons* or a *Reduced Price!* Your customer is going to want *his* money's worth and if you are stuck with a saddle with a Black Eye among the Riders, *you* are stung for the Price of a *Good* saddle.

When a Salesman tries to work off an imitation on you, you can judge the inside of his machine accordingly. Just beware of Imitations and

Get Your Money's Worth **THE PERSONS MANUFACTURING CO., Worcester, Mass.** *Send for Catalogue*

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Standard Speedometers

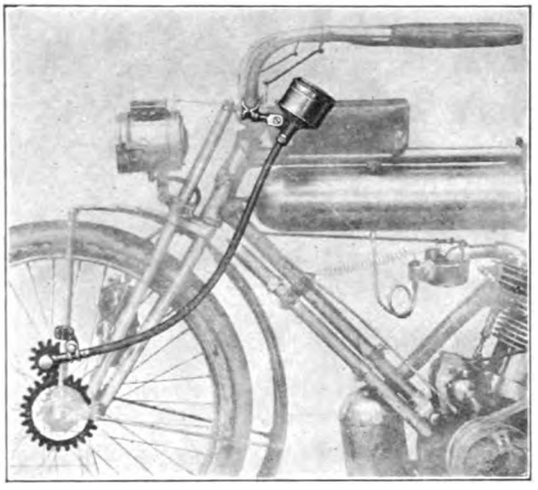
FOR MOTORCYCLES

The new **Standard** motorcycle speedometer is the finest instrument that it is possible to make for the purpose. It is the result of two years' experimental work and testing. It is mechanically RIGHT. This cut shows the large, clear, evenly graduated scale.

The construction of the governor allows a very fine adjustment, and we will guarantee what no other maker has accomplished—that the **Standard** does not vary more than one-quarter of a mile at any point on the scale from the absolute speed at which it is running.

The most important point of all is the steadiness with which the **Standard** operates, and we know beyond question that there is nothing else made that can compete with it on this point. The arrangement of the governor makes it impossible for either the road vibration or that of the motor itself to effect the pointer, and even while running over paving stones you can tell within a fraction of a mile the exact speed you are traveling. It has required a great amount of experimenting to accomplish this, but we consider the time well spent, as this has been the chief objection to other speedometers in the past.

We have also made a decided improvement in the method of driving from the front wheel, by using spur gears and using a right-angle beveled joint in the flexible shaft drive instead of the ordinary method of using a beveled gear on the front wheel. Accompanying illustration shows clearly how the gears and instrument are mounted.



The advantage of our method of driving with spur gears is great, especially on spring fork machines, which usually have a certain amount of play sideways that interferes seriously with the meshing of beveled or crowned gears.

The method of gearing is also one of our special features. The pinion has twelve teeth and the driving gear which attaches to the spokes of the wheel has the same number of teeth as the diameter of the wheel is in inches, so that a 26-inch wheel takes a 26-tooth gear, and a 28-inch wheel requires a 28-tooth gear. This is the only correct method of getting the exact ratios for different sizes of wheels and is original with us.

Write for our Motorcycle Catalogue and Prices

PARKER MFG. CO., Clifton Street, BOSTON, MASS.

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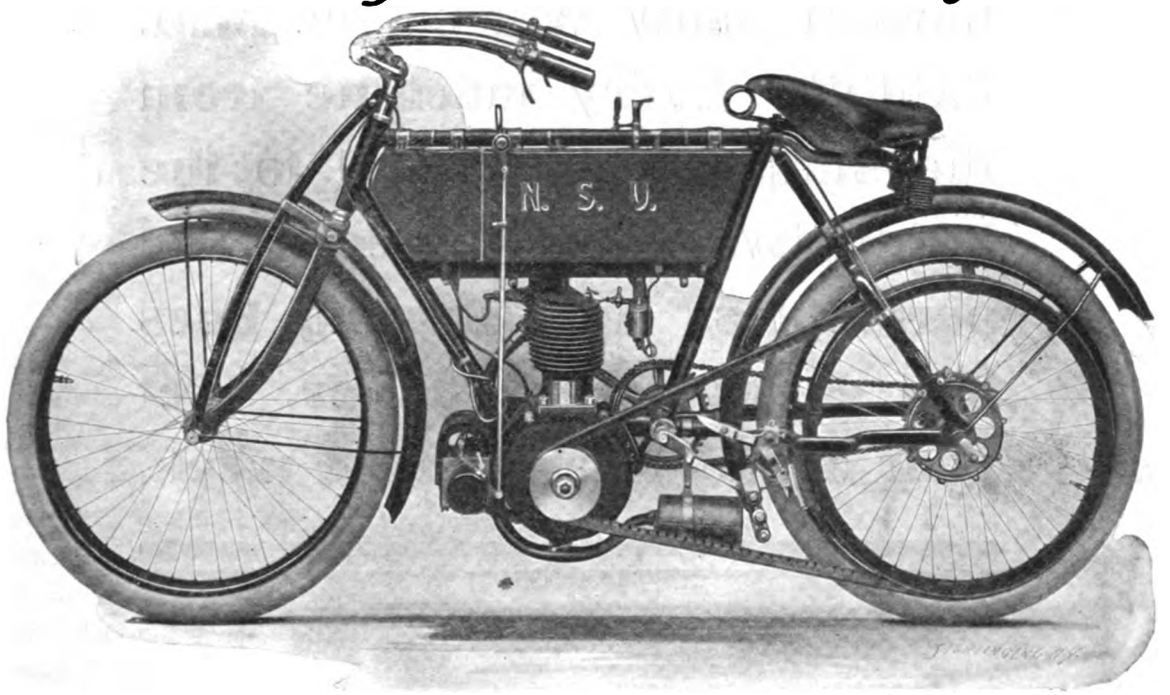
THE F. A. M. Endurance Model

The Peer of Standard Motorcycles



3 H.P. Single Cyl. F. A. M. Model

IN selecting the F. A. M. Model you are positive in securing a motorcycle which has proven itself to be the strongest and most reliable of over 60 other makes entered in the trial of trials, the F. A. M. National Endurance Contest. Three of the

NSU

motorcycles entered won 3 GOLD MEDALS, and our combination received the highest average points of any other make entered.

"A WORD TO THE WISE IS SUFFICIENT"

We have only a limited number for early spring delivery, so get in early; you'll never regret the choice. Fast, powerful and thoroughly reliable.
SINGLE CYLINDER, 3, 3½ and 3¾ h.p. TWIN CYLINDER, 6 h.p.

Madison Sq. Garden—Space No. 533, January 16th-23d

N. S. U. MOTOR CO. 206 West 76th Street New York City

Digitized by Google

The center of interest at the Garden Show will be the M.M. Exhibit. Every machine from the stanch road model to the flying twin shows mechanical perfectness and pleasing lines that captivate the buyer. Get your territory early in the week.

American Motor Co.

Brockton, Mass.

Factory Representative

MR. GEO. P. JENKINS 10 West 60th Street

NEW YORK CITY

Pacific Coast Distributor

MR. LINCOLN HOLLAND 1034 So. Main Street

LOS ANGELES, CAL.

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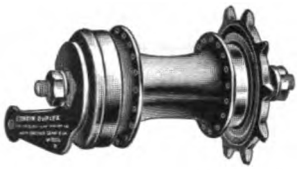
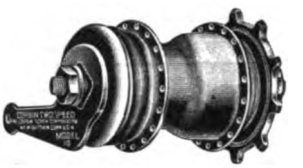
Corbin Duplex



Coaster Brake Model 8

Model 9
FOR
1909

Corbin Two Speed



Coaster Brake Model 10

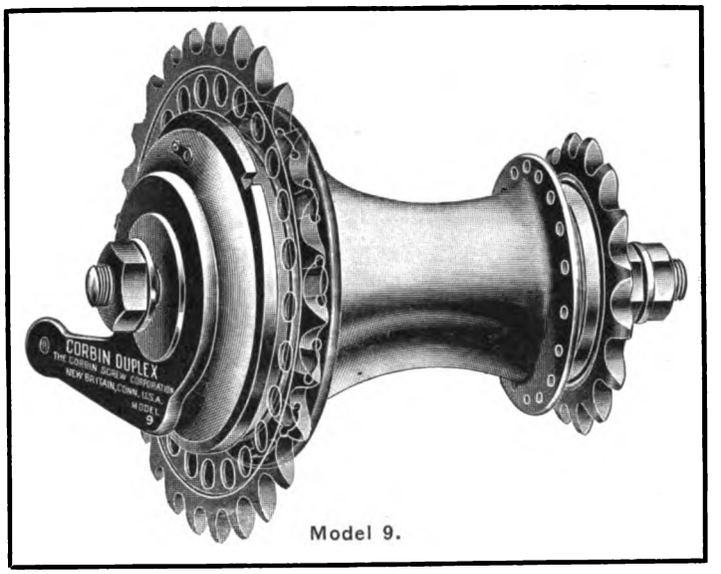
The Best Motorcycle Coaster Brake on the Market

Built Throughout for Motorcycle Use.

½ inch Axle.

Larger Bearings, giving longer life.

The Inside Diameter of the Brake Drum is 3 Inches, with Brake Shoes ½ inch wide, giving double the Braking Surface of Any Other Model.



Model 9.

Model 9 is 5⅜ in. long outside of cones 1 15/16 chain line.

Model 9A is 6⅜ in. long outside of cones 2¼ chain line.

Made for either Belt or Chain Drive Motorcycles.

Heavy Front Hub to match.

Any size sprocket, either ⅝ or 1 inch pitch.

Complete Catalogue on Request

Corbin Rear

Hub Model 26.

Corbin Front

Hub Model 16

Corbin Motorcycle

Front Hub Model 15

Licensed Coaster Brake Manufacturers

The Corbin Screw Corporation

NEW BRITAIN, CONN.

The Corbin Screw Corporation of Chicago, 107-109 LAKE ST.

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THE NEW GOODRICH

Ribbed Tread Motorcycle Tire

Marks the beginning of a new era for motorcycle users.
It departs entirely from the makeshift bicycle tire type which never gave satisfaction to motorcyclists—and never will—and offers instead the MOLDED FORM OF CONSTRUCTION, and this form of construction means nothing less than—BUILT LIKE AN AUTOMOBILE TIRE. Right here it is only fair to you and ourselves to state that the Goodrich 1909 Ribbed Tread Tire is the only motorcycle tire constructed along the same lines as the best automobile tires. A construction that gives the greatest strength and at the same time is not of a heavy cumbersome nature which kills resiliency.

HARD TO WEAR OUT
EASY TO RIDE ON

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Our products are also handled in

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by

THE B. F. GOODRICH COMPANY OF NEW YORK

and in

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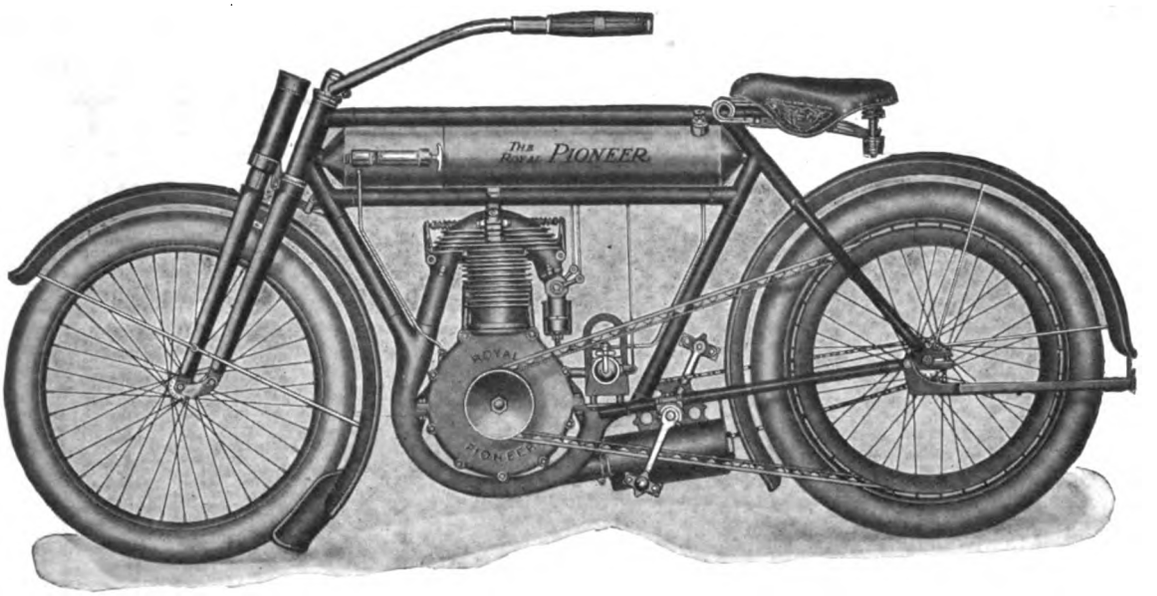
The ROYAL PIONEER



MOTOR SPECIFICATIONS

MOTOR: New Pioneer, 30.50 cubic inches. **POWER:** 3½ to 4½ horse.
BEARINGS: Hess-Bright Annular Ball Bearings.
VALVES IN HEAD: Absolute duplicates, with springs, etc., interchangeable, and mechanically operated by one cam. Glass window in base to show depth of oil.
MOTOR OILING SYSTEM: New, combined centrifugal and splash.

GENERAL SPECIFICATIONS

CARBURETOR: Royal Pioneer, built to our specifications by Brown & Barlow, coupled direct to motor BEHIND cylinder.
IGNITION: BOSCH MAGNETO and none other; bevel gears and shaft drive, motor to magneto.
MUFFLER: Massive but "tucked away." Silently emits cold gases.
FRAME: Contains an Expansion Chamber beneath the motor in which the gases cool before reaching the Muffler.
TANK: Pioneer brass DOUBLE torpedo, five inches round, carrying two quarts oil and two gallons gasoline. Frame designed to harmonize.
CONTROL: Complete handle-bar control of Carburetor, Magneto and Exhaust Lift, ALL ENCLOSED and "trouble proof."
HANDLE BARS: Free from unneeded curves and are stationary. Long rubber grips.
CUSHION FORKS: Pioneer type, compound springs with spring stops top and bottom.
SEAT: Persons Champion, 1909 Model. Wide, long and low.
GEARING: 4½ to one through genuine Watawata 1 inch "V" belt.
WHEELS: 26 inches, with 2½ inch tires, option of 28 inches with 2¼ inch tires.
OIL PUMP: Transparent barrel; one simple operation charges motor.
WHEEL BASE: Fifty-six inches.
MUD GUARDS: Extra wide and extra long, and properly supported.
STAND: The Royal Pioneer stand is included without charge.
CRANK HANGER: Pioneer principle, adjustable fore and aft for chain and above or below stays to suit rider.
PULLEY RIM: Persons Armless indestructible steel pulley.

"Lives there the man" who does not believe the motorcycle of the future will be capable of from fifty to sixty miles per hour—forty up hill? We doubt it. Will the live man *ever* want batteries? No. But he *will* want a Bosch Magneto, a valve-in-head motor, a Hess-Bright ball bearing motor, a mechanically-operated-valve motor, a Silent machine with Watawata V Belt, a frame to take 26 inch or 28 inch wheels, separate brass tanks for oil and gasoline, adjustable crank hanger, pneumatic fork and ideal equipment, such as is found in the Royal Pioneer of to-day. See it at Booth 543 and

GET A CATALOGUE

Royal Motor Works, Inc., Worcester, Mass., U. S. A.

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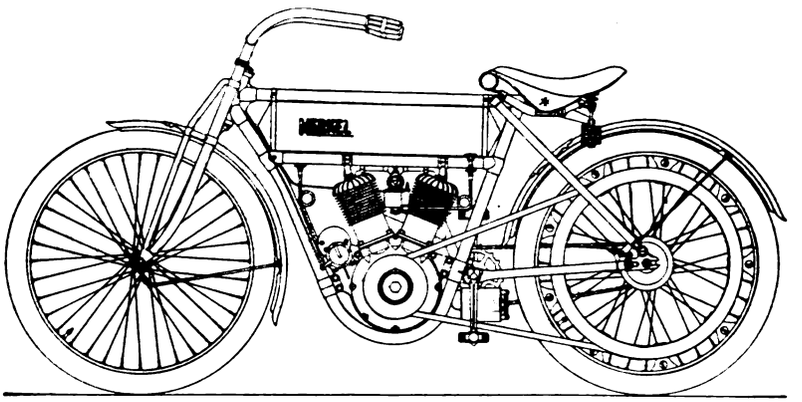
MERKEL **09** **LIGHT**

BELT DRIVE **CHAIN DRIVE**

POWER



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Five Models--with more original and advanced ideas--constructive and more exclusive features than ever offered by any manufacturer.

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PERFECTLY PLEASING

We can talk to the point with some more live dealers.

Merkel-Light Motor Company, Pottstown, Penna.

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L. B. Porcelain Plug Only 75c Just as Good as it Looks.

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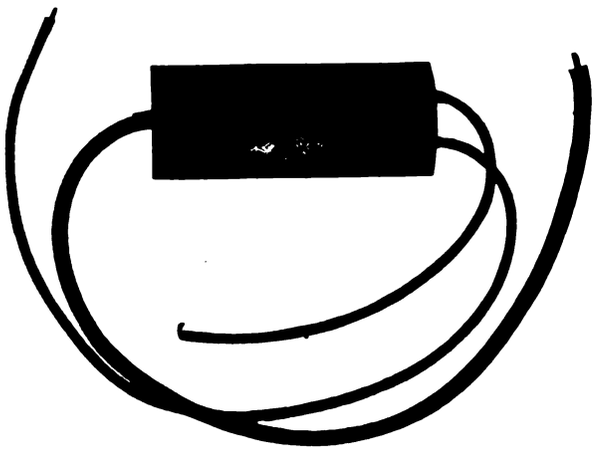

L. B. Indestructible Battery Connector. Will not break.

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MOTOR CYCLE HORNS

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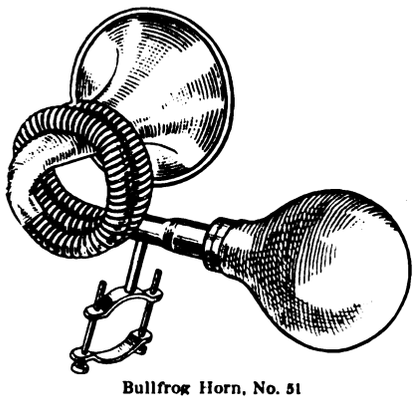
Bends are Made of Flexible Tubing

FINE DEEP TONE
LOW IN PRICE

No. 50 bell, 8¼ inches No. 51 bell, 4 inches

¶ These horns are *new* and *novel*, and are first-class goods. Large bulbs (our No. 68) on both horns. Brass only. Order through your jobber. Best selling horns made. Electros free. Write for prices Dep't B.

Bullfrog Horn, No. 50



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We Pay for Good Ones

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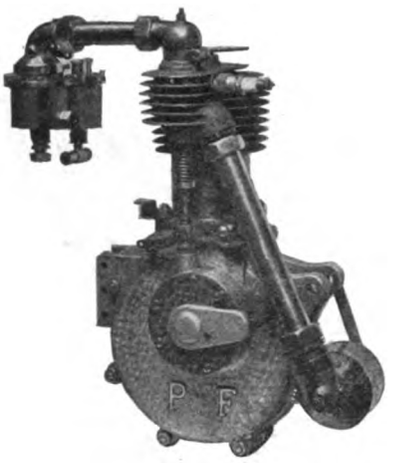
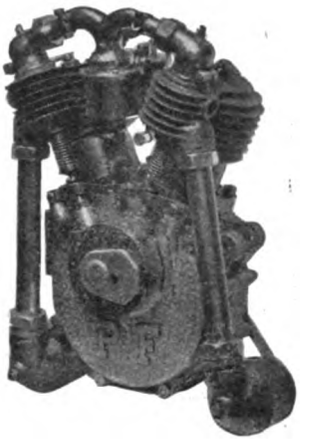
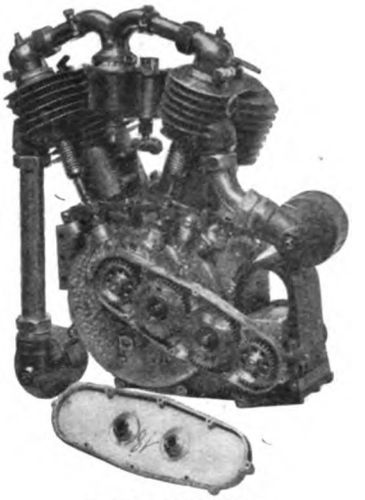


3½ H-P SINGLE



5 H-P DOUBLE



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296 BROADWAY NEW YORK

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Free Motorcycle Tire Insurance

We protect the user of Goodyear Strong Fabric Motorcycle Tires from all expense for upkeep for one full season.

Goodyear Strong Fabric Motorcycle Tires are all that the name implies—Tires of the Goodyear construction, famous the world over—strengthened by our Special Motorcycle Tire Fabric—built to stand the terrific grueling of motorcycle use, which soon sends the ordinary tire to the junk pile.

In the Goodyear Tires only the finest NEW Para rubber is used. It is quoted at $1.20 today. We could use Lapori or Guayule rubber that sells at 35c per pound, or even "reclaimed" rubber—from old boots or garden hose out of which the life had been burned by heat and acid. We could get THIS kind of rubber at 10 cents a pound—but it WON'T DO FOR A GOODYEAR.

Goodyear Strong Fabric Motorcycle Tires are so much better than the ordinary kind—so proof against the usual damage—that we cheerfully agree to become entirely responsible for the upkeep of each and every tire sold, for an entire season.

Should a Goodyear Strong Fabric Motorcycle Tire be injured IN ANY WAY, we will make the repairs entirely free during the period covered by the insurance, shown by the tag attached to the tire. This is the strongest guarantee ever put on a motorcycle tire.

Our purpose is to make good tires—not to sell them cheaper than others.

The cheaply constructed motorcycle tire means trouble almost from the start. Repair bills—if the tire can be repaired at all—are an expense that begins soon after the tire goes into use.

Goodyear Strong Fabric Motorcycle Tires not only outwear several pairs of this kind, but are of such construction that permanent repairs can be easily made.

They have the Goodyear Tough Rubber Tread, as strong as rawhide—united to a pure, soft Para rubber inside so perfectly as to be practically one piece. This in turn is strengthened by being woven into our close-woven fabric—four plies—

GOODYEAR STRONG FABRIC MOTOR-CYCLE TIRES

Making a tire so durable, and at the same time so resilient, that there is no comparison with the common motorcycle tire.

We also have a special thread fabric for racing purposes.

The Goodyear Strong Fabric is in reality the most economical tire on the market. That explains its popularity with motorcyclists who know—and why riders after trying the Goodyear will not have any other kind afterwards. Send today for sample section.

Made Single or Double Clinch

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THE UNAPPROACHABLE LINE FOR

1909

FOUR MODELS

ROADSTER, 2¾ h.p.....$175
TOURIST, 3½ h.p..... 200
SEMI-RACER, 3½ h.p.
LADIES' MODEL (drop frame), 3½ h.p.

Diamond Loop Frame, Twin Fork, Double Grip Control, Rubber "V" Belt, Low Saddle Position, 2½ inch Tires, Breeze Carburetor, Long Wheel Base, etc.

If you are interested in what will be absolutely the BEST Motorcycle Agency proposition of the year, drop a card for descriptive catalogue, terms, etc.

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Space No. 130, Coliseum Annex

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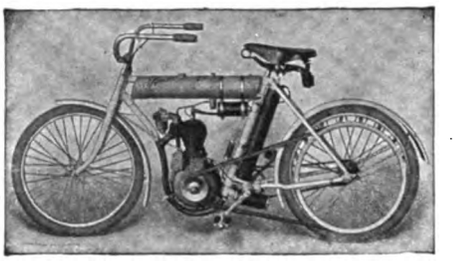
Armac

A Masterpiece of Simplicity



The strongest frame, the fastest engine, the most power delivered at the rear wheel, with no loss of power in transmission, the neatest looking and most reliable machine for business or pleasure, is the quickest and best description of the ARMAC Motorcycle that we could think of.

As to hill climbing, why that is a joke to our machine. Just open the throttle and you will sail up the stiffest grades just like you used to coast down them on your bicycle.

Rough roads are a terror to most riders, but equipped with our spring fork you will no longer fear them, as it rests the arms and absorbs the smallest road shock as easily as the largest, neither are noticeable.

We have also invented a carburetor that is simple, small and vigorous in its action on any motor. It is the best carburetor that has ever been put before the public.

As we have said before, and will say again, our frame construction is the foremost on the market of the world. It is made of the best grade of seamless steel tubing, with oil and gasoline tanks integral, which economizes space and makes a neater looking frame than any others.

We can use a few more agents, and as we have a good proposition would advise that if you are thinking of taking up an agency to write us quick before your territory is gone.

If you are not looking for an agency, write for a catalogue and you will be convinced that our statements are true.

ARMAC MOTOR COMPANY

Department "A"

472 Carroll Avenue, Chicago, Ill.

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The Three Leaders for 1909

MOTOSACOCHE — MINERVA — WAGNER

The MOTOSACOCHE, the Lightweight King

The Motosacoche comes from Geneva, Switzerland, with a wonderful reputation. The single-cylinder model has been used officially in the Swiss army maneuvers for the past three years: this speaks well for the machine's standing-up qualities.

The Motosacoche twin will develop 3 h.p. The weight is 80 pounds. Speed from 45 to 50 miles an hour. Hill-climbing power? Watch it in the contests this coming season. The ignition will be magneto.

When we saw our first Motosacoche and took our first ride on it we realized that we had THE proposition for our friends who want power for the hills, but prefer to leave behind a hundred pounds or so of weight.

The MINERVA TWIN, the Speed King

When pitted against strictly stock machines the Minerva 8-h.p. model repeatedly proved itself the Speed King of the 1908 season.

The improvements for 1909 will include:
Bosch Magneto on the 4½ and 8-h.p. doubles.
Double-Grip Control.
More powerful brakes.
Continental Non-Skid Tires.
Improved G. & A. Carbureter, giving more power.

The WAGNER, the Endurance King

In the many Endurance Contests held throughout the country the past five years, the WAGNER has invariably been there at the finish with a perfect score, and we feel that we are justified in our claim that there is no single-cylinder machine on the market today that can compare with the WAGNER when the test is rough road riding.

The most important change in the 1909 WAGNER will be in the power of the engine: 3½ h.p., with a bore and stroke of 3¼ by 3¼.

There will also be some class to the finish of the engine.

The famous WAGNER Twin Fork and Loop Frame have been retained.

The gasoline and oil capacity has been doubled.

A throttle control from the left grip has been added.

The saddle will be low and well back.

We are not prepared to quote prices on the above models; they will be more than reasonable. Write to us for catalogues and further information.

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The Roller Bearing Machines of Quality

Silent, Refined, Speedy, Powerful

More features of Merit. More talking points. Holds World's Records for Speed

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WE ORIGINATED

6 Years Ago

The trussed frame and forks
The Upright motor position
Roller bearing engines

Our 1909 machines employ these and many other exclusive "CURTISS" features you can't afford to be without.

DON'T FAIL TO SEE OUR

Three Cylinder 10 H. P. Machine

AT THE SHOW, JANUARY 16th TO 23d.

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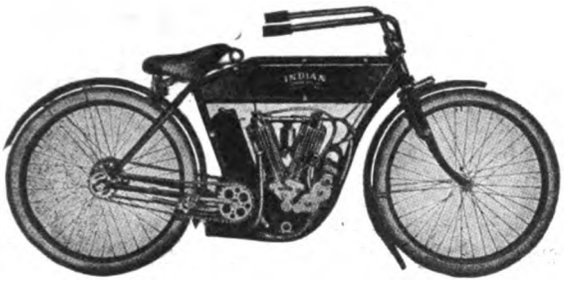
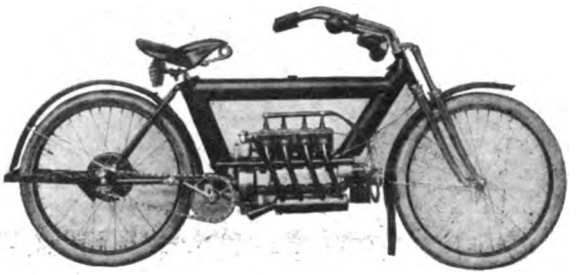
INDIAN AND PIERCE

1909 Models



INDIAN, 2¼, 3½, 4, 5, 7 H.-P.



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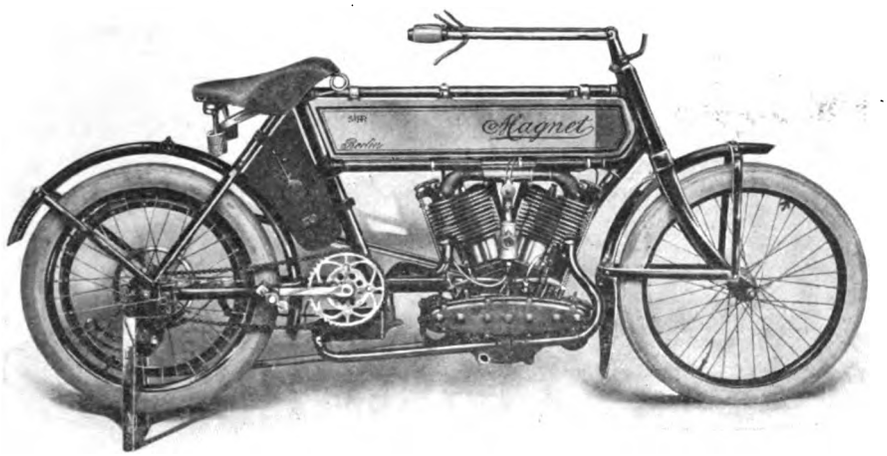

MAGNET SPECIAL TWIN 5½ H-P

We know your time is limited, so is our space. Therefore we'll have our say in a few words.

We manufacture motorcycles, so do many others, but not as well nor as long as we do. Experts admit that our machines are at the top of perfection.

Others say that also, but they cannot prove it. We can; our guarantee of one year, covering machine as well as magneto, does it.

We have devoted the proper space to all details of our machine in the

'09 Catalogue of the Magnet Special

Have you got it? No? What's your address? ? ?

Watch this space closely. We will show the main features and different parts of the Magnet Special in the following issues.

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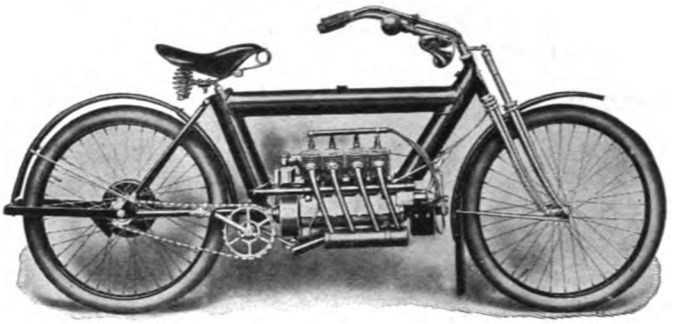
THE 1909 CLASSIC

THE PIERCE VIBRATIONLESS MOTORCYCLE

4 Cylinder



Shaft Drive

The motor in this machine is a miniature of the Pierce Automobile engine and is the most remarkable power-plant ever built into a cycle mechanism. In this motorcycle we have gotten away from the bicycle type entirely. Heretofore motorcycle manufacturers have built a motor into a *bicycle frame*. Our frame is a departure in that tubing of 3½ in. diameter is used. Such a frame will neither buckle nor break, and that it lends itself to be utilized for oil and fuel carriage is especially advantageous, as this eliminates separate *tanks* of every description.

Riders who are wise will invest in the *Pierce*. Dealers must negotiate at once if the 1909 agency is wanted. Send for booklet C and learn the whole story. It will pay you to write today.

We shall exhibit at Chicago, Space No. 90.

THE PIERCE CYCLE COMPANY

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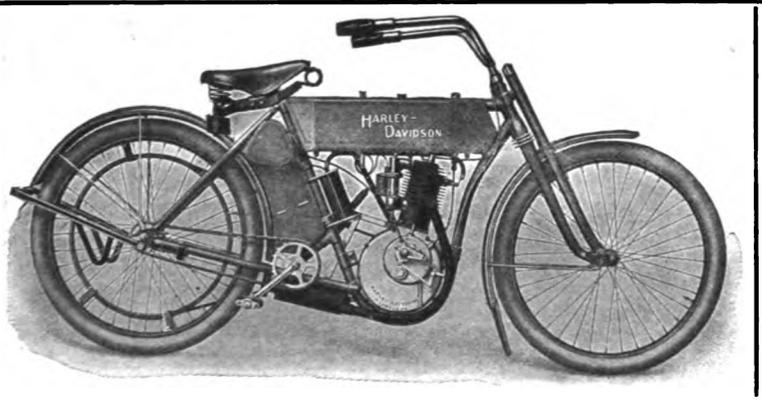
Manufacturers of the Celebrated PIERCE BICYCLES.



IT REQUIRES

No Diagrams

AND

Few Words

TO PROVE THAT THE

HARLEY-DAVIDSON

is the motorcycle that made them all "sit up and get busy." It is the direct cause of the improvement of quite a few other brands of motorcycles, but, despite the fact, in 1909 the Harley-Davidson will be as far ahead as ever. It will set the pace, as usual.

THERE IS NO MORE DESIRABLE AGENCY TO BE OBTAINED IF WE ARE NOT REPRESENTED IN YOUR TERRITORY. WRITE US

Harley-Davidson Motor Co., Milwaukee, Wis.

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INDIAN--

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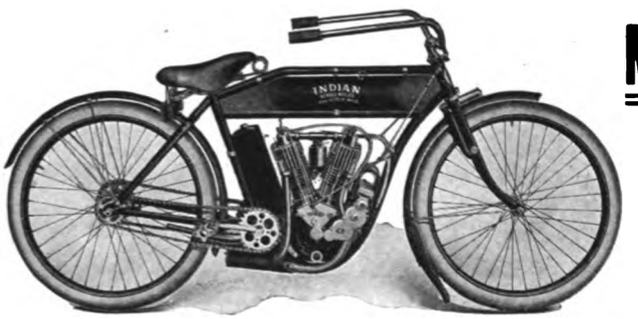

5 H. P. 1909 Indian

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7 Models Indians, 2¾ to 7 h.p., chain or belt, magneto or batteries.

Frank B. Widmayer Co.

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KOKOMO GRIDIRON TREAD
Single Clinch Motorcycle Tire

IF YOU WOULD banish all the tire worries from your mind---specify

KOKOMO

GRIDIRON TREAD MOTORCYCLE tires when you place your order for a new mount

ALL THE EXPERIENCE GAINED IN FOURTEEN YEARS OF TIRE MAKING IS INCORPORATED in building these Gridiron Tread Tires for motorcycle use. Drop us a post card request and we shall be pleased to mail you our booklet. It tells why Kokomo tires will be the equipment on some of the leading 1909 machines, and why they should be your choice.

THE KOKOMO RUBBER COMPANY
SOUTH MAIN STREET, KOKOMO, IND.

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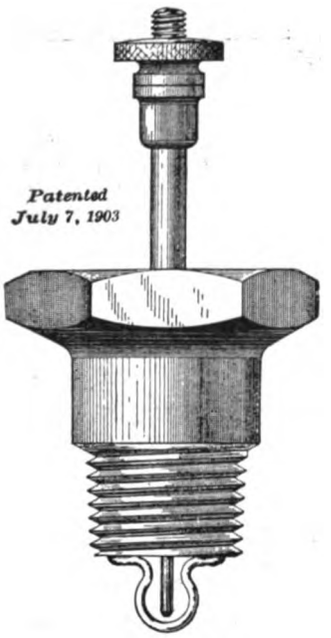
ANDERSON GLASS PLUG



It is a demonstrated fact that the Anderson Spark Plug increases very materially the speed of the machine using it, for the reason that it SPARKS EVERY TIME, ALL THE TIME, and ALWAYS ON TIME.

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Distributor
352 Fulton Street BROOKLYN, N. Y.

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A GOOD START is half the pleasure—and when you can **KEEP ON GOING** through sand and mud, stop and re-start on **ANY HILL** (by use of the dependable **FRICTION CLUTCH** —no pedaling) **then** your enjoyment of motoring is COMPLETE!

The "K & R" CONVERSION SET

fulfills all of these requirements, is applicable to ANY machine, by which it is converted (at a nominal cost) into a modern TWO-SPEED AND FREE ENGINE MOTORCYCLE

Absolutely Guaranteed. If interested send for booklet "K & R Conversion Sets"

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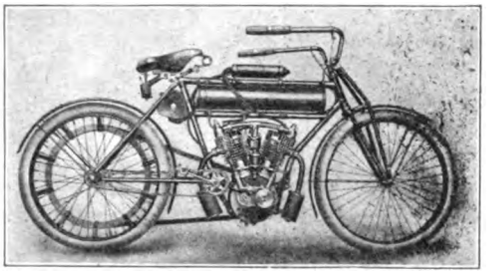

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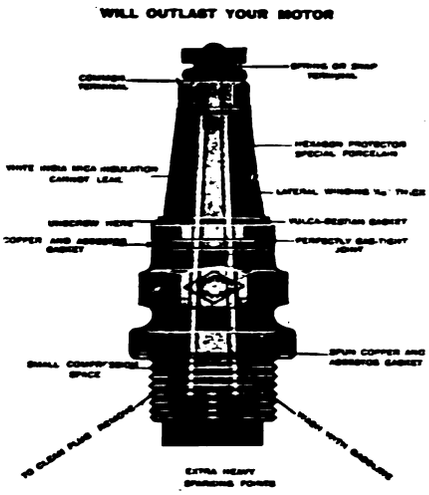

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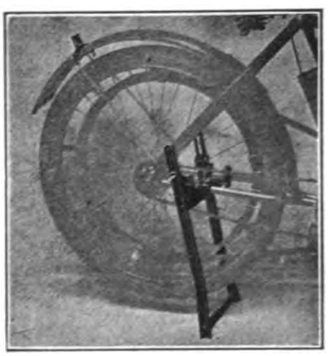

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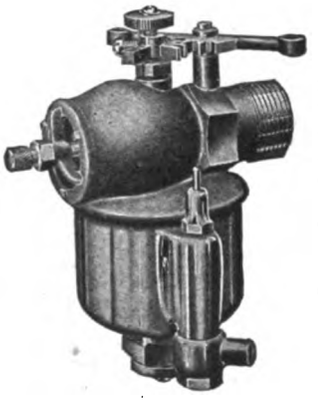

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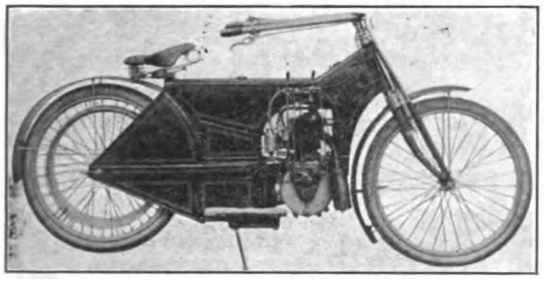

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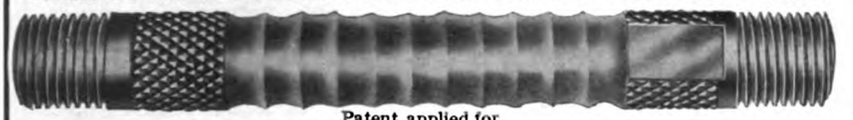

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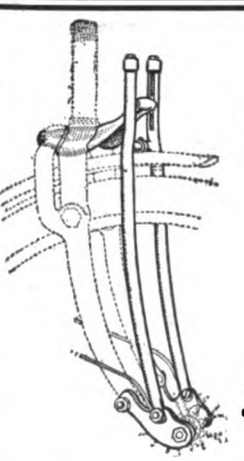

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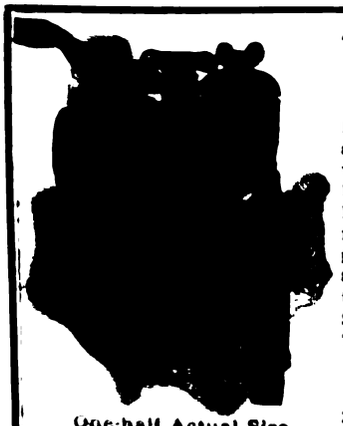

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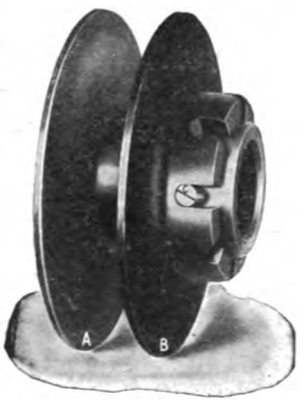

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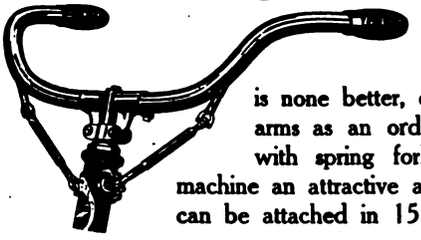

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MOTORCYCLE ILLUSTRATED

Vol. IV. No. 3 Feb. 1, 1909

PUBLISHED BY THE MOTORCYCLE PUBLISHING CO., 299 BROADWAY, NEW YORK CITY

THE SHOW

AMERICA'S motorcycle industry is fast outgrowing its swaddling clothes. This fact was conveyed as never before at the Ninth Annual A. L. A. M. Automobile Show, held this year during the week following January 16th at the famous old Madison Square Garden in New York. To the man in the trade who has watched the growth of the business in this country from its early days the show was most gratifying. To the motorcycling public it was most interesting. To the manufacturer it was most successful. And, last but not least, to the general public it was a revelation. No other word can describe it. When the outsider, that is, the man who makes up the greater proportion of the population of this country, struck "motorcycle row" in the Garden basement he was amazed. "Look at the motorcycles!" he exclaimed. He wandered a few yards farther, and he said, "More of them!" He got to the end of the aisle, and said, "Isn't that great!" But when he turned the corner and found still more and more of the little two-wheelers, he was forced to begin to realize what great popularity these machines have attained in a few short years. If he never did before, he simply *had* to take notice, and the impression that he got was a good one.

All of which was very wonderful indeed. It is the universal verdict that the show was the greatest thing that has ever been accomplished for the industry. In the opinions of the manufacturers, and they are the men who foot the bills and reap the benefits (when there are any), the show was the "greatest ever." The amount of business done at the Garden is problematical. In the press report, which came from the Secretary's office after it was all over, amongst other items it was stated that the sales of motorcycles amounted to $35,000. If that means retail sales the amount is, without doubt, too great. If it is intended to cover both wholesale and retail business done, it is safe to say that it is not large enough. One concern alone booked orders for forty machines from two of their agents, for the earliest possible delivery, at an average price of $250 each. And there were nineteen makers.

This year's display was both larger and far more attractive than the preceding one, when the motorcycle section was first added to the automobile show. The section occupied not only the wide passageway which divides the circular basement of the Garden, known as the "Tunnel," but an additional quarter circle as well. The decorations, while not elaborate nor abounding in a multitude of color effects, were attractive nevertheless. As a matter of fact, very few of those who visited the motorcycle section paid the slightest attention to the various embellishments making up the different booths. Instead, they were there to see and study the motorcycle, to learn, if they did not already know, what improvements had been made during the year, and, what is most important of all, large numbers of them were there to buy. The consequence is, that with not a single exception, the exhibitors are more than gratified, the majority of them having done business far in excess of their anticipations.

Briefly summed up, there were eighty-one machines exhibited, of twenty-one different makes. As for engines, the following was the proportion; Four cylinder, four; three cylinder, one; two cylinder, twenty-six; one cylinder, fifty. More than half of the machines, namely fifty-two, were belt driven, the remainder being as follows: Chain drive, twenty-one; shaft drive, six; chain belt, two. Battery and magneto ignition were about equally divided, there being forty-one of the former and forty of the magneto type. Fifty-two of the machines exhibited had automatic inlet valves, the mechanical valve engines numbering twenty-nine. Of machines having twenty-six inch wheels there were forty-four, and with twenty-eight inch wheels, thirty-seven.

A summary of the year's progress in the manufacture of motorcycles indicates, among others of less importance, the following significant tendencies and improvements:

Frames.—Trussed or double bar; lower position of saddle, the seat post often being horizontally inserted; twenty-six inch in preference to twenty-eight inch wheels; larger tires; strengthening of spring forks; double grip control generally in demand; tanks square and of increased capacity; engines in "loops."

Engines.—Increased power, with larger valves, much improved; automatic valve favored, though not at all to the exclusion of the mechanical inlet valve; many other improvements, which will be noted in their places—in the descriptions of the various machines on display.

Lubrication.—Force feed hand pump most popular, with automatic lubrication a strong feature on several machines.

Transmission.—Generally speaking, the belt drive has gained, having made many converts even among those manufacturers who still believe in the efficacy of the roller chain; large gain in the number of V belts fitted.

Ignition.—Magnetos all the "go," the only difficulty involving the problem of placing them to best advantage; drive by gears in preference to chains on singles, and universal on twins. Where batteries are used three standard dry cells are the usual equipment, though in some instances four, and in one case, two cells are used.

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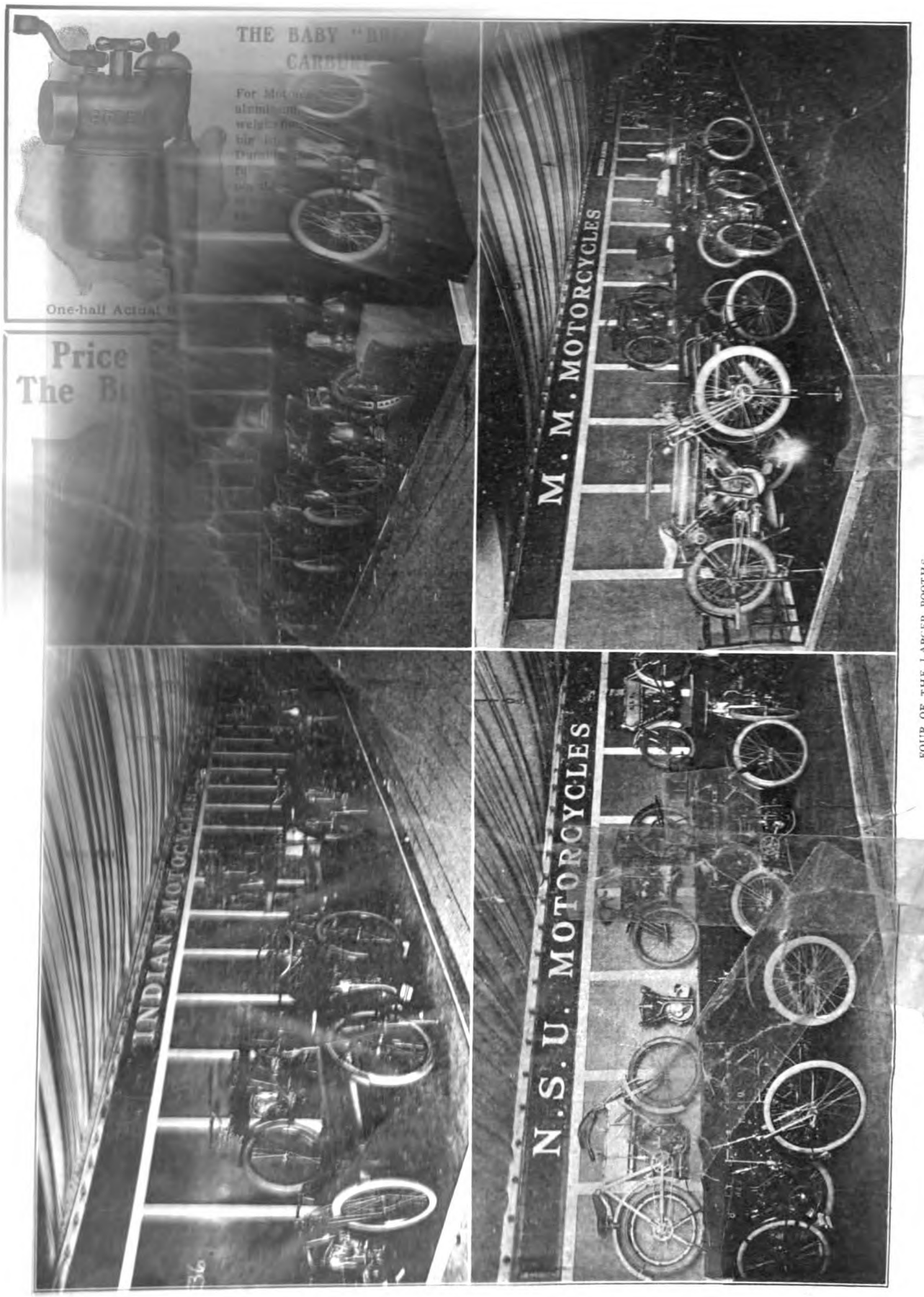

FOUR OF THE LARGER BOOTHS

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THE MACHINES ON VIEW

The Indian

THE Indian line exhibited by the Hendee Manufacturing Co., was naturally a complete one and comprised nine machines, representing six different models. The following list will give a bird's-eye view of the Indian line for 1909. Loop frame models: 19.30 (2¾-h.), single cylinder, battery ignition, $200, with magneto, $225; 26.96 (3½-h.) single cylinder, battery ignition, $225, with magneto, $250; 30.16 (4-h.) single cylinder, magneto only, $275; 38.61 (5-h.) twin, magneto only, $275; 60.32 (7-h.) twin, magneto only, $325; chain or belt drive, except the 2¾-h., which will be built in chain drive only. Diamond frame models: 19.30 (2¾-h. diamond frame, $175; 38.61 (5-h.) twin diamond frame, $225.

Interest in the exhibit, of course, centered in the loop frame models, which embody the first radical changes which the Indian has seen since its beginning. The changes are not confined to the placing of the motor in the loop, but the machine has undergone a marked improvement in many other respects. The loop frame models will be furnished at the purchaser's option with either chain or V belt drive. Every one is familiar with the Indian chain drive, and all will appreciate the incorporation in the belt drive of a device much similar to the compensating sprocket on the chain model. The application of this device to the belt drive it is claimed very greatly reduces the wear on the belt and the consequent necessity for frequent adjustment.

Another feature of the Indian line is the emphasis on the magneto. All the models are furnished with an option on magnetos at a proportionate increase in price, and the heaviest singles, and all the loop frame twins are furnished with magneto only. The magneto used is the Bosch high-tension gear-driven. Tires are all twenty-eight inches, with two and one-quarter and two and one-half rear wheel. Base is somewhat longer than last year and the handlebars have been lengthened. A feature very much appreciated by all motorcycle owners is the adjustable band brake on all loop frame models.. The brake is operated by foot pedal, the same as by the regular coaster brake. The band clamps the drum on the hub of the rear wheel and is adjustable for wear by a short turn buckle. Gasoline tank capacity has been increased and an oil window is provided in the crank case. Footrests are provided with all models at a slight additional charge. Altogether the 1909 Indian is a very satisfying line.

Curtiss

THE G. H. Curtiss Co., showed five models. This line is in many respects much the same as last year, with a few improvements such as Mr. Curtiss has found advisable. The rakish Wehman type frame is an option on all machines. The brakes are all of the coaster type, and the drive on all machines is by V belt. The engines are oiled by automatic gravity feed. Magneto is furnished on all models at an extra charge of $25, and spring fork and stand are furnished at a slight extra charge. On all models the standard tire equipment is 2¼ inch on the single cylinder, and 2½ on the double; either twenty-six or twenty-eight inch wheels. The V shaped handlebar is used. Grip control is used with much stronger cables than heretofore. The motor exhausts into an extra long exhaust pipe and the muffler has a patented ejector outlet which reduces the noise to a minimum. The plug furnished on this motor this year is made by the Curtiss people and is absolutely guaranteed. If the porcelain breaks a new one will be supplied without extra charge. The commutator design is unique and includes a combination switch and circuit breaker.

This exhibit included one of the most unusual features of the show, a three cylinder motor, 10-h. This model is furnished with battery ignition only. It is described on another page of this magazine. The five models manufactured are listed as follows: Model 1, 1 cylinder 3½-h., $225; Model 3 R, 1 cylinder, 3-h., $200; Model 5 R, 2 cylinder, 6-h., $275; Model 2, 2 cylinder, 10-h., $350, battery igniton only. With exception of the three cylinder, the extra charge on the above machines for magneto is $25.

N. S. U.

THE exhibit of the N. S. U. Motor Co. was most complete. Eight of the machines manufactured by the big German works were shown. The sidecar and tricar exhibited show workmanship comparing with the finest coach work on the big automobiles upstairs. The seats for the passengers are beautifully upholstered and provided with handsome dust covers. The sidecar may be attached to any of the N. S. U. heavier models, both single and double, at an extra charge of $115. The forecar is put on various models at special prices, which the importers will quote on application.

One of the models of the N. S. U. sure to be popular this season is their lightweight twin—a little machine that has a 3-h. twin cylinder motor with twenty-six by two inch tires, V belt, geared pulley and a belt-tightening device operated from the saddle. The machine weighs 100 pounds ready for the road.

Another favorite at the N. S. U. booth was the F. A. M. Endurance model, equipped with either single or double cylinders of various sizes from 3-h. to 6-h., and selling at prices ranging from $240 to $330. There was a single cylinder lightweight with 1½-h. motor, weighing eighty pounds, at $200. All N. S. U. models are equipped with Bosch magnetos. Spring forks are supplied on the touring models at a small additional charge.

Royal Pioneer

THE Royal Motor Works, Inc., exhibited one machine, a husky looking one cylinder with a 4½-h. motor. The motor sets vertically in a loop in the frame, the lower part of which is used as an expansion chamber for the exhaust before it passes into the muffler. The motor has mechanically operated valves with Bosch high tension magneto, English Brown & Barlow carbureter. The valves are unique in that they operate horizontally. The drive is by a V belt. The machine is regularly equipped with a double spring fork and stand. Handlebars are long V shaped, and it would seem that the rider's position is very comfortable. The tire equipment is either 26x2½, or 28x2¼. Motor control is of the enclosed grip type. The crank shaft is mounted on Hess-Bright ball bearings. One of the neat features of the exhibit shown was the fly wheel mounted on these bearings and driven by an electric fan. The lubrication is by a transparent oil pump and the crank case is provided with a window for gauging the oil level. This machine sells for $265 with magneto.

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Merkel-Light

[illegible] been expressed as to what would [illegible] by the Merkel Light Motor Co., as the [illegible] of the Light and Merkel Com- [illegible] respects the two machines have [illegible]. The Merkel line is all belt [illegible] machines are all driven by chains. [illegible] of the Merkel are the spring [illegible] furnished on all models, V belt [illegible] new mechanical oiler on [illegible] Merkel internal expanding brake, [illegible] Mea magneto is used on Merkel [illegible] the gas is exceptionally neat. The price [illegible] includes five models as fol- [illegible] single cylinder battery ig- [illegible] Model M [illegible] (50.06), single cylinder [illegible] Model V-7h. (53.02), twin [illegible] only, $300; Model W-Special [illegible] only, $275; Model V-Special [illegible] only $350

[illegible] Light machine are shown. They [illegible] the same as last year with somewhat longer [illegible] three feet oiler and a very good- [illegible] The motors are the standard Thor [illegible] well known. Model A, with the [illegible] battery ignition, with cushion [illegible] Model B, 2 to 3½-h. single cylinder [illegible] ignition, goes at $225.

Pierce

The exhibit of the Pierce Cycle Co. was examined [illegible] with a great deal of interest. This [illegible] Pierce Co.'s first exhibit of motorcycles and [illegible] in connection with the character of the machine, [illegible] attention. They exhibited three beauti- [illegible] of their new four cylinder machine, while the [illegible] was the most interesting feature, as it was the [illegible] American made machine to be exhibited. [illegible] of the Pierce Motorcycle that [illegible] the large tubing used for the frame. [illegible] in diameter and as it is used to hold [illegible] of the simple lines of the machine are [illegible] here are no other tanks in sight. [illegible] Bosch magneto, mounted di- [illegible] the wiring so that the [illegible] a most clean-cut appear- [illegible]

[illegible] bevel gears to the rear [illegible] with a good looking [illegible] The handlebars are long [illegible] the rider's position [illegible] the motor and transmission [illegible] of completion and clearly [illegible] of manufacture em- [illegible] and carrying [illegible] operated. The foot [illegible] and the rear [illegible] the level and on [illegible] diameter with two [illegible] tied by a [illegible] the brake- [illegible] the engine [illegible] elsewhere in [illegible]

[illegible] side [illegible] Toledo, Ohio [illegible] [illegible] [illegible]

of the purchaser. The V belt drive is equipped with a variable speed pulley.

The side car adjustment is fitted to any of the heavier models. It is of the 3-point rigid type and appears to be very comfortable. The price list on the M. M. lines is given below: M. M. roadster, 1 cylinder, 3-h., battery ignition, $175; M. M. special, 1 cylinder, 3½-h., battery ignition, $200; M. M. magneto special, 1 cylinder, 3½-h., chain driven, Bosch magneto, $225; M. M. twin cylinder, 6-h., battery ignition, $250; M. M. magneto twin cylinder, 7-h., gear driven, Bosch magneto, $285. This sidecar is attached to any of the above machines, except the roadster, at an extra charge of $60. A delivery van body is attached in same manner as the sidecar and at the same price.

Harley Davidson

THE Harley Davidson Motor Co. exhibited three machines, beautifully finished in their standard gray with nickel trimmings. The machines shown were the battery single, the magneto single and the magneto twin. The battery single sells at $210, the magneto single at $250, and the magneto twin at $325. All Harley Davidson machines are equipped with spring forks somewhat similar to the 1908 type, but considerably strengthened. In all motors the bearings and bushings are hardened and the machine throughout is finished with many drop forgings. All inlet valves are automatic and magneto is driven by gears. A standard double grip control is used this year and the machine is equipped with a first class stand. The frames are nineteen inches high. Gas tank is made double, enclosing the oil tank. The engine is fastened into the frame by taper bolts. The magneto bracket is integral with the crank case. The carbureter is the same world's-record device used last year. The tires used on the singles are 2½ inch. The twin is equipped with 28x2¾ auto tread tires, the largest shown in the show. The Harley-Davidson line, on the whole, looks mighty good, and prospects are bright for the Milwaukee manufacturers.

Crouch

THESE makers showed two models of a one-cylinder machine. One, selling at $175, is equipped with a flat belt and solid fork, but is not arranged with a stand. The $200 machine is equipped with a V belt and a stand. Both machines have full grip control, oil pump, and battery ignition. The machines appear to be strongly put together for hard service. They have increased flywheel dimensions over last year, and claim is made that the motor consequently runs much smoother. The Schebler carbureter is used, and the motor is equipped with an automatic inlet valve. The gasoline capacity is seven quarts; oil capacity one quart.

Besides the stands named, there were also on view the Auto-Bi, Thor, Excelsior, New Era, F. N., Midget Bi-Car, Reading Standard and the Simplex, all of which are described elsewhere in this issue.

FROM THE TECHNICAL SIDE

By ROLAND B. LAURIE

Part I. Concluded in Next Issue

Some Interesting Features In The Thor

AS is generally known, this motor is of the ball bearing type. A very commendable practice is shown by the intake and exhaust valves being made of nickel steel. This is known to be the very best material for valve construction, as it causes the valve to retain its seating longer and more effectively and prevents it from pitting. The base of the engine is constructed so as to be perfectly oil tight. The intake and exhaust valves are of largely increased size, and the exhaust pipes are of greater diameter. The frame is especially designed so as to give a low saddle position, and is of the trussed loop type, the upper bars being of one and one-eighth inches in diameter and of sixteen gauge material, and the lower loop bar being one and one-eighth inches in diameter and of fourteen gauge. The stays are of sixteen gauge and the forks fourteen gauge. The connections are drop forgings. The crank of the new model is suspended on two wide springs, which are fastened to it, these springs resting on the truss bar. This design, it is claimed, eliminates any danger from vibration. The wheel base is longer than formerly, being fifty-four inches.

Twenty-eight inch wheels are fitted, thirty-six spokes being built into the front wheels and forty into the rear. Rear mud guards are of standard fitting. On one of the models an eccentric hanger is fitted to the starting chain for the purpose of taking up the adjustment. The driving chain is, of course, tensioned by adjusting slots at the end of the rear forks. Of special interest was the geared transmission demonstrated at the Thor booth by a very well made sectional working model. The main shaft is fitted with a gear wheel, which engages with an intermediate toothed gear wheel, this engaging in turn with the tooth on the inner periphery of the internal disc, to which the sprocket is fixed. These gears run on substantial bearings. The compensating sprocket is shown on all the different chain models; in one being contained in the forward sprocket and in the other being contained in the rear sprocket. This compensating sprocket is the familiar type, the sprocket being placed between two steel discs, the size of which has been increased on the 1909 models. These steel discs have bronze friction rings running between, and are so arranged as to allow for adjustment.

The coaster brake has a very substantial friction surface of 16½ inches square, and should be very powerful and efficient. A positive action oil pump is used. On the battery ignition model the capacity of the gasoline ark is five and one-quarter quarts and lubricating oil three pints. On the magneto model the capacity of the gasoline tank is two gallons and of the oil two quarts. On the carbureter of the new model a dome has been devised with a threaded union, which is specially adapted for quick detachment. Where the magneto is fitted it is built into the crank case and all driving mechanism runs in an oil-tight case. The grip control on the Thor is of very satisfactory design and so protected that it does not seem as if it could be damaged should the motorcycle fall. The principle adopted

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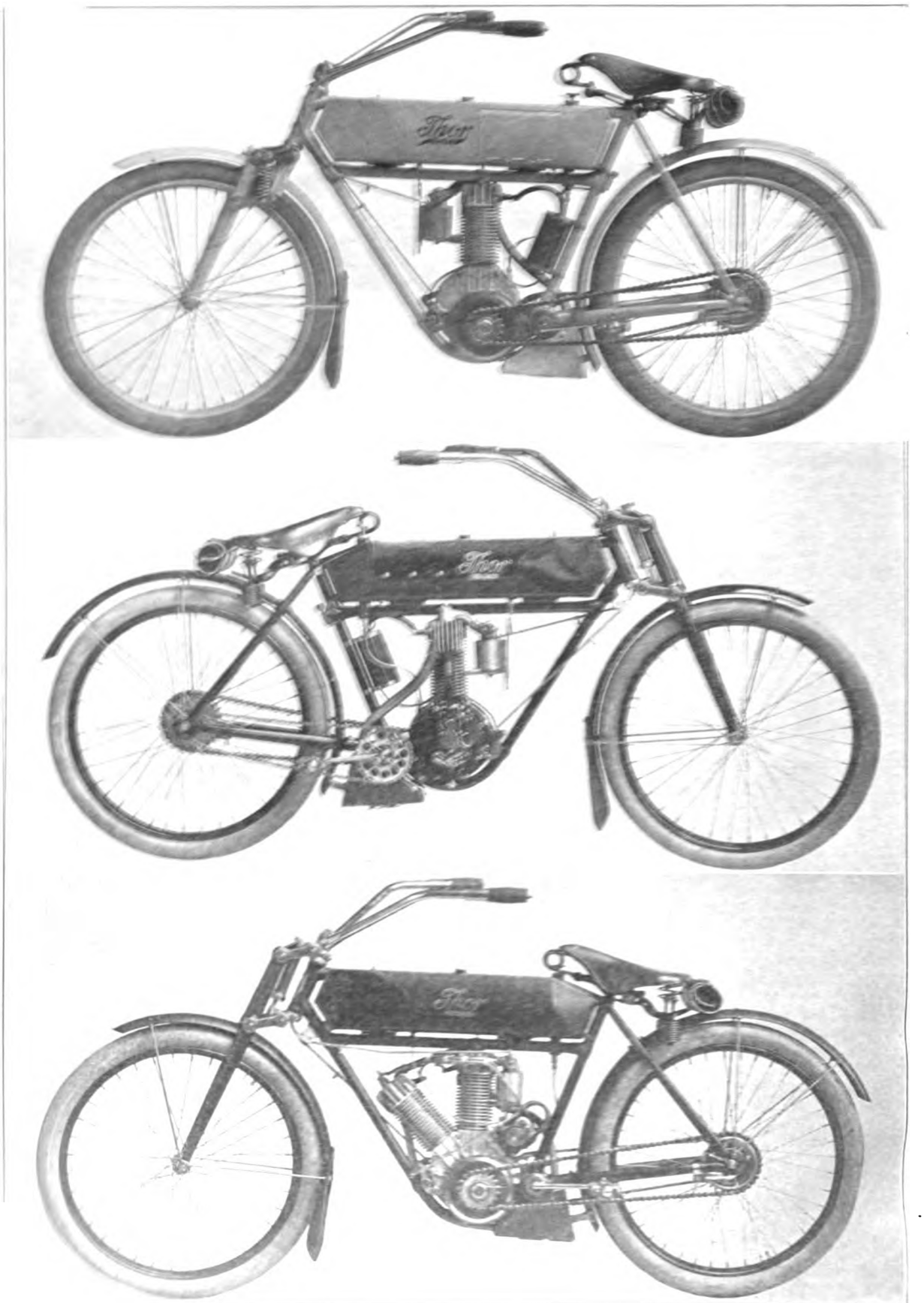

THREE THORS: 3¼-H. SINGLE, 3-H. SINGLE, 6-H. TWIN

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is the worm sleeve type, which operates a one-sixteenth inch piano wire, the right grip operating the exhaust valve lift and the spark advance the grip on the left operating the throttle.

Two types of spring fork are used this year on the Thor. One is the well known pattern of last year, in which the fork crown has two side plates, or hinges, which are attached to the forward end of a straight fork of heavy gauge with two other links, or side plates, fitted four inches down. To these two high tension springs are attached, running to the fork crown, side plates. The other model is of splendid design. It is called the Thor pneumatic fork. The head of the machine has four side plates fitted two at the top and two at the bottom, and ball bearings are placed at the link hinges. Connected to the forward end of these links, at the joints is a straight fork running direct to the hub, being joined at the top. The cushion effect is derived from a piston, with spring resistance, which operates between these two pairs of links. The piston has a packing which acts as a shock absorber and rests on a coil spring. In addition to this a pneumatic cushion is effected, the air leakage being gradual so as to operate in the place of a recoil spring. There is also a rubber buffer, which is used mainly as a spring device for counteracting exceptionally severe recoils. The claim for this fork is that the impact falls directly over the hub axle.

READING STANDARD

IN construction the Reading Standard engines for 1909 retain a good many of the details of the 1908 model; but there are many improvements which have been well tested and which are distinctly worthy of notice. Most noticeable of course, is the new R-S loop frame. Described technically, the Reading Standard is made in fourteen different models, ranging from three to seven horsepower. Taking the single cylinder, we have two sizes of engine—one 3-3½-h., 22.026 cubic inches displacement, and a 4-h. model, 30.616 cubic inches displacement. The only radical change in the construction of the engine is that the radiating flanges are cast horizontally, not vertically as in former models. This gives a greater radiating surface, considerably aids cooling, avoids the possibility of the valves warping, and thus helps to maintain a more perfect valve seat, and in consequence, better compression. The circuit breaker is now operated from the intake cam gear shaft instead of retaining the circuit breaker cam gear formerly used. This means a considerable reduction of friction. The base of the engine is a new design, the principle aimed at being the prevention of any oil leakage at the bottom. A special note should be taken of the manner of securing the wrist-pin. All possibility of this device becoming loosened because of wear is now eliminated, it is practically impossible for it to get adrift and thus cause internal damage to the engine. The method of securing it is very clever, and well worthy of attention. The wrist-pin is slotted with a tapered internal thread at each end. Into these threads are fitted tapered threaded screws, by means of which the pin is expanded after it is put in place. These screws are provided with hexagon heads, which are prevented from unscrewing by brass washers which fit into hexagon recesses in the piston.

The piston has now three expansion rings fitted instead of two as formerly. These are arranged with two rings at top of piston and one at the bottom, the claim being that this adds fifty per cent. compression retaining ability to the engine and also contributes toward more uniform wearing of cylinder walls. Every detail of the engine has been studied so as to secure perfect balance. The exhaust pipes in the new model have been enlarged on the 3½-h. to one and one-eighth inches in diameter, and on the 4-h. to one and three-eighths inches. The twin cylinder engines are exactly double the horsepower, and of same cylinder measurements as the respective two models of single cylinder. The compression release mechanism is now fitted internally, and these parts are protected. The muffler retains the same construction, barring a slight alteration to make it more efficient as a silencing medium. It is a very neat and compact construction. It is fastened and stayed in the frame and is thus not dependent upon the exhaust tube to hold it in place. A very neat cut-out is fitted, operated by the foot. Particular notice is directed to one other distinct step in the right direction, that is, the valve lift pins, both intake and exhaust, are provided with adjustment nuts for the purpose of taking up wear. This practice cannot be too highly spoken of.

The fork of the R-S has been redesigned entirely to meet the popular demand for a spring fork with a vertical movement. This fork is well supported both on top and bottom, and in order to embody the cushion effect is fitted with spiral springs ten inches long and rebound springs five inches in length. These springs are fitted in a steel tube. The diamond frame machine retains the same lines as formerly, and on this pattern frame twenty-eight inch wheels only are fitted. All the new loop frame models have twenty-six inch wheels, thus giving the rider the advantage of exceedingly strong wheels and a very low saddle position, and permitting him to reach the ground with both feet while mounted. This makes riding safer and forms a better proportioned machine. The two and one-half inch tires lessen vibration and give increased comfort. The front wheel is equipped with a new design detachable or "knock out" axle hub or spindle, which permits the wheel to be removed without disturbing the adjustment of the cones or springing the fork sides.

The loop frame remains the same as used on last year's models, it being noted, however, that chain or V belt drive is optional, except the 7-h. and diamond frame machines, on which chains only will be fitted. The chain is in a slightly more horizontal position on account of location of engine, and some advantage may be claimed from this, as it gives a longer chain which would, of necessity, wear for a greater length of time. On the belt driven models a seven-eighth inch V belt of twenty-eight degrees is fitted on the singles, and on the twins a one inch belt. All loop frame models except the 7-h. furnished either with belt or chain transmission. The wheel base on the diamond frame remains fifty-one and one-half inches, and on the other models is fifty-six inches. The compensating sprocket on the transmission remains the same, except that the side plates have been strengthened. The gasoline tank is combined with the oil tank, the capacity being two gallons for the former and for the latter one quart. The fuel tank is fitted with a strainer at the filler cap, and a similar strainer, although smaller in size, is fitted at the feed cock connection, facility being given for the convenient removal of this for cleaning purposes.

The oil pump is only slightly altered by having a new check at the base in order to overcome the base compression. The battery case is placed at the back of the saddle mast as formerly, and is fitted with door at the side for accessibility. This battery case contains three dry cells, or two cells and one coil when a two cell coil is used. These are all held in place by a substantial expander and are thus practically vibration proof. Especially noticeable is the substantial gear drive for the magneto, all the gear wheels being contained in an oil-tight case. The twin cylinder with battery ignition has fitted a single coil circuit breaker with the well known Reading Standard dis-

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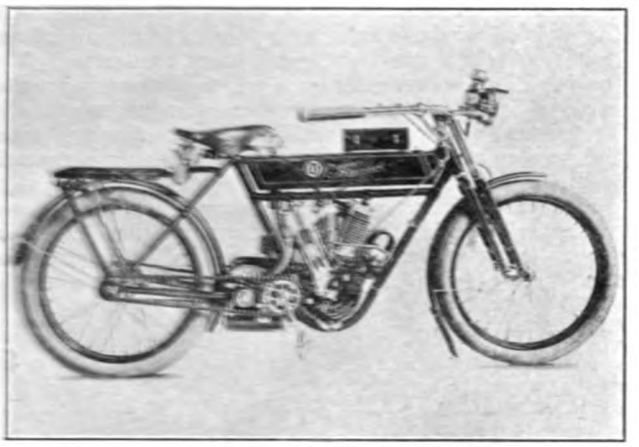
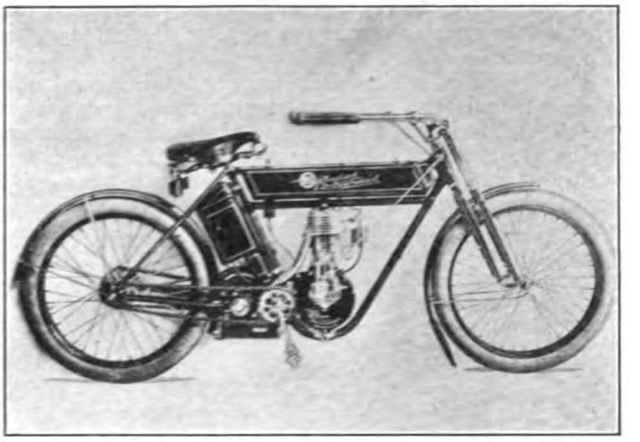
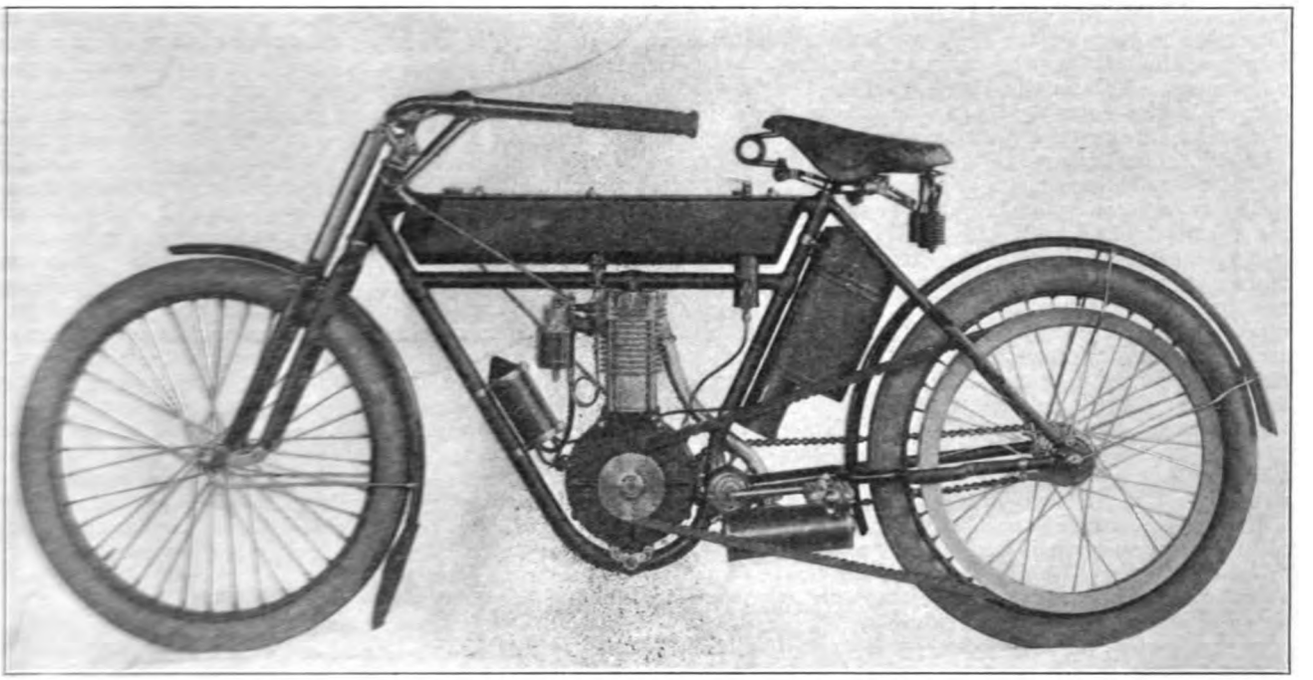
FIVE READING STANDARD MODELS



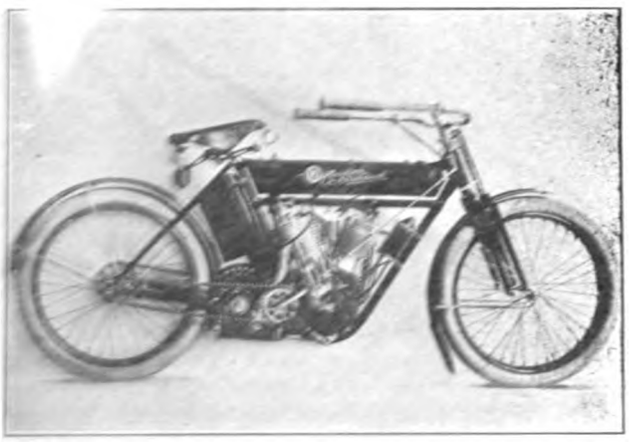
6-H. TWIN. MAGNETO



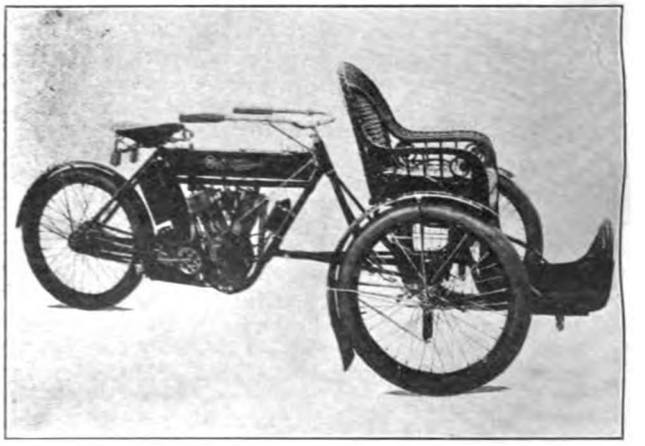
3-3½-H. SINGLE. BATTERY



3-3½-H. SINGLE. BATTERY IGNITION. BELT DRIVE



7-H. TWIN BATTERY



6-H. TWIN WITH FORECAR ATTACHMENT

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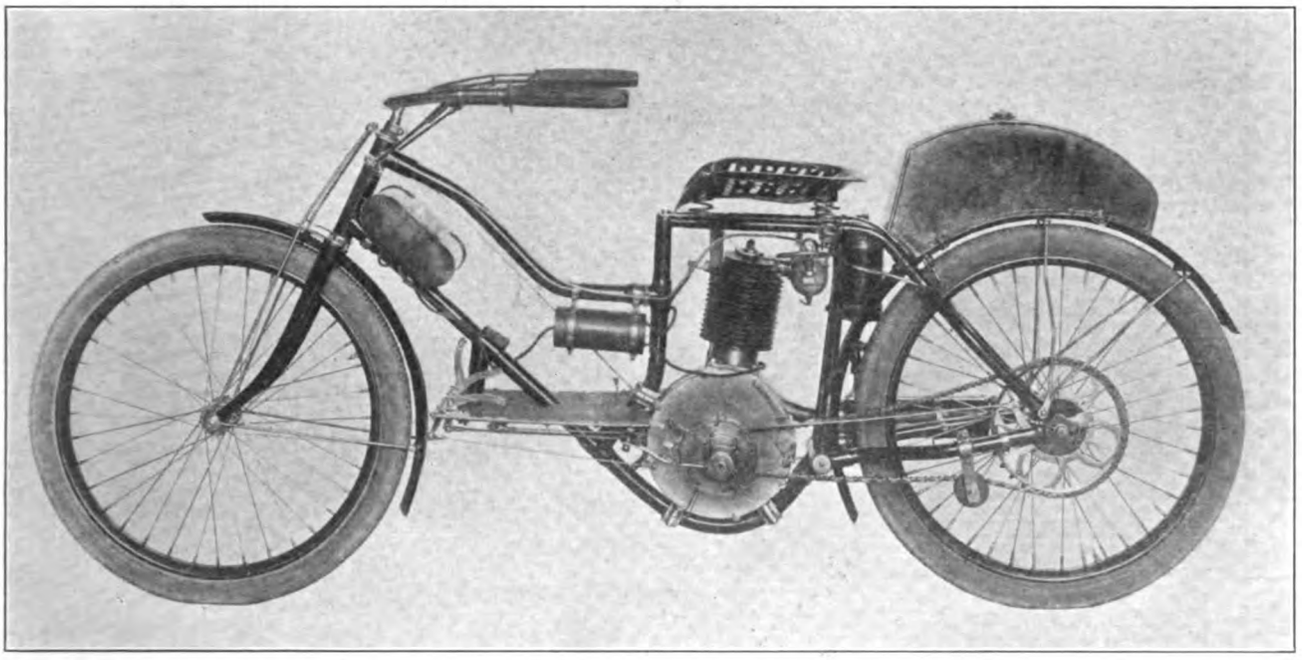
tributor for alternating the current from one spark plug to the other as required. By using this construction the battery consumption has been considerably reduced. The principle of the grip control is practically the same as in 1908, save for the fact that the handlebars are slightly longer and give a more comfortable riding position, and long "Rough Rider" grips are fitted.

For commercial purposes a fine delivery van is staged. There are two models of these marketed, one being convertible into a motorcycle and the other a non-convertible van. The non-convertible model shown is fitted with semi-elliptical springs, which reduce vibration considerably and allow for the carriage of goods in a much safer manner. The rider also benefits from this springing, as the whole machine "gives" on meeting road obstacles. This model is fitted with a two speed gear and free engine clutch. The engine is started by a crank handle fixed to a sprocket on the back wheel spindle. Foot rests are fitted, and also a substantial rear band brake operated by a foot pedal. Unlike most patterns of commercial vehicles, the box is arranged to open in front instead of from the top, and a rail is fitted around the top to facilitate carrying parcels. A tricar attachment was staged by the Reading Standard Company, and this also can be fitted with a two speed gear and free engine at option. A clever gasoline vent is fitted to all models, which is so arranged that it is impossible for the gasoline to splash out of the tank.

NEW ERA

AS is known, the New Era motorcycle has no pedals. This machine has a sixty inch wheel base and loop frame of specially low construction. Twenty-eight inch wheels are fitted, with thirty-six spokes in the front and forty in the back. It is built of ten, twelve and fourteen gauge tubing, which is exceptionally strong, and four inch mud guards form part of the equipment. Noticeable is the new "form seat" used on this machine. This is constructed of steel, and has a very comfortable upholstered cushion, which should be a great boon for distance riding. The footboards are of especially good design, and are made of one inch oak boards, covered with rubber matting. The gasoline tank is of round pattern, and is hung over the rear wheel. It is carried just back of the seat, is made of pressed steel, and contains one and three-quarters gallons of gasoline. The oil tank is cylindrical, and has a capacity of one and one-half quarts, the lubrication being the gravity sight feed system. The engine is a single cylinder, 3½-h., with a bore of three and one-eighth inches and a stroke of three and one-quarter inches, and a speed of 2,000 R. P. M. The connecting rod and the main bearings are of phosphor bronze; the fly wheels are ten inches in diameter, and their weight is twenty-three pounds; cylinder and head are cast in one piece, thus eliminating the use of gaskets; a jump-spark igniter and spark plug is the standard fitting. The exhaust valves and the inlet valves are one and one-half inches in diameter, the exhaust pipe being large in circumference, and the muffler is of large and sensible dimensions—twelve inches long and three and one-half inches in diameter. This should prove very silent in action. A cut-out, operated by a button fitted on the rubber covered foot-board, is another useful fitment.



The motor is started by a crank, similar to automobile practice, a handle and a plated starting crank being provided. Of course, free-engine and two-speed gear is fitted, and the starting operation takes place at the "free" position. The two-speed gear is very substantially made of well designed parts, and is on the epicycle, or planetary, principle. The ratio is, on the high gear, four to one, and on the low gear fourteen to one. A compensating sprocket is fitted, allowing the clutch to slip on the outside of the transmission case. A three-quarter inch chain drive is used, the chain being five-sixteenth inches. The crank case is made of aluminum, is very well designed, and should eliminate leakage of oil. The stand is a part of the equipment of the New Era. When the rider dismounts, all that is necessary to do is to unhook the stand from the rear guard. With battery ignition three standard dry cells are used in conjunction with a three terminal coil. A detail which requires special notice is the internal expanding brake on the rear wheel. This is operated by a pedal fitted on the footboard, and is a very good feature.

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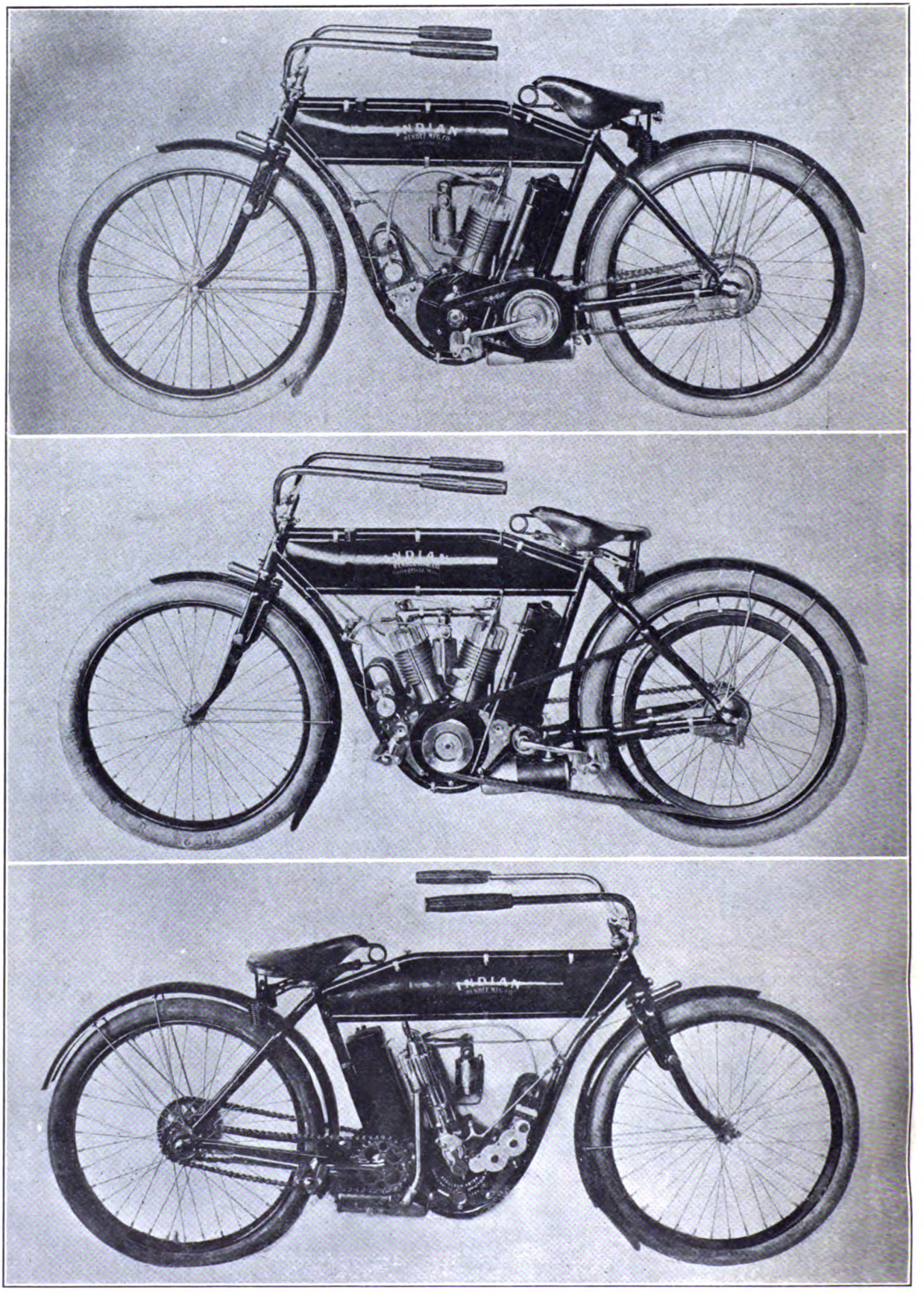

THREE BIG INDIANS—3½-H. SINGLE, 5-H. TWIN, 2¾-H. SINGLE

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SOME INTERESTING INDIAN TECHNICALITIES

THE 1909 Indian line has already been fully dealt with, but there are many technical points of interest which are distinctly worthy of additional note. The new loop frame is of extraordinarily strong construction. A truss bar is fitted and the entire frame is constructed of heavy tubing, which is reinforced throughout its length by a continuous internal bridge-plate of steel. The wheel base is fifty-three inches, and twenty-eight inch wheels are fitted with thirty-six spokes in both front and rear wheels. The well known double spring convertible cushion fork is fitted. These forks are of very strong construction and both crown and hinges are drop forgings. The Hedstrom motor, as fitted to the singles, has bore and stroke measurements of two and three-quarter inches by three and one-quarter inches, the 5-h. twin being the same. Thus all cylindrical measurements are standardized. The cooling ribs of the new model are stripped off the lower third of the cylinder.

In looking over the various models at the Show one was struck by the very neat appearance which the leverless grip control gives. This has a twisting link action, and the best way of describing how the twisting grip operates through the bend of the handlebar is to say that a miniature cardan shaft is fitted internally. The overhead system of operating the inlet valves of the various models shown is as follows: In the single cylinder loop-frame a single compound cam operates both valves, the usual lift rod or tappet resting on the cam drops at a certain point below its normal position, causing the inlet valve operating rod to be forced down by its spring, which is fixed just below the valve pocket casting. By making contact with its upper arm, which extends upwards to the inlet valve stem, outside the pocket, the valve is opened. The reverse motion of this rod closes the valve.

On the twin engine the inlet valves are operated by a lift-rod, which is worked by the cam on an external rocking lever mounted on the dome of the valve chamber, a splendid notion embodied in this being an adjustment screw at the end of this valve-chamber dome to regulate the extent of the valve opening. This dome is secured in place by a bayonet joint, thus providing means for quick adjustment. The valves are operated from one steel forged cam; the cam, revolving, acts upon the end of a cam lever, and the cam of this lever operates what is called a finger lever upon which the lower end of the inlet valve operating-rod rests. These cam levers and finger levers are fitted on either side of the cam, and thus operate each inlet valve in turn. The exhaust valves are operated in practically the same way, the levers being of slightly different shape and the cam lever being fitted with a hardened steel roller for the purpose of providing better wearing qualities. On the new models the valves have been increased in size. All valve gears are wider, and are constructed of specially toughened steel. Here it may be noted that the engine bearings are also increased in size,

A foot operated cut-out is fitted to the muffler, and is so arranged as to give practically complete release to the exhaust. An extension or vent pipe is fitted to the rear end of the muffler, and is carried far back on the rear fork. The staying of the magneto on these loop frame models deserves mention. The magneto rests upon brackets that connect to the forward portion of the crank case, thus being practically an integral part of the motor. The transmission, as described elsewhere, is optional.

The action of the compensating sprocket, which is fitted to all chain-driven models is as follows: From the small sprocket on the engine shaft a short chain runs to a larger sprocket on the counter shaft, which works in the lower bracket of the frame. The shock-absorbing device is fitted upon the counter shaft of this first sprocket, which is termed the compensating sprocket. Upon the end of the counter shaft a steel plate is fitted. This plate has a V shaped groove running near the outer periphery. A similar loose plate is provided which is so arranged as to be secured by four bolts to the first plate. Between these two is a heavy V-shaped friction ring secured on the flat side of the sprocket. The four bolts which connect the two steel plates have lock nuts with spring washers fitted. The action of the sprocket is shown by the whole assembly; the sprocket, which is placed between the two steel plates, has bronze rings fitting into the grooves of the plates and the plates are clamped together by the four bolts mentioned. This provides a very simple adjustable friction clutch. In one of the belt drive models shown the first thing which struck the visitor was the provision of a spoked rear pulley entirely separate from the wheel spokes. These spokes run from a wide flange, which is connected with a compensating friction clutch as before described. The object of fitting this clutch to a belt driven machine is to overcome the slip of the belt and consequent wearing.

THE GREYHOUND

THE 1909 Greyhound is built in one model only. Many of the well known points of this machine as manufactured in 1908 are retained, but there are several new and interesting details and improvements that attracted considerable attention at the Show. The frame is of pleasing design, built of straight tubing. The engine is carried in an inclined position, forming a portion of the bottom tube and bottom bracket connection, and the strengthening truss bar runs from a point or lug immediately above the cylinder head to the saddle mast "ordinary," which, as described later, does not in this machine carry the saddle mast at all, but serves for the attachment of the cantilever spring seating arrangement. The truss bar, with the engine, forms a complete triangle, and thus the construction is very strong. The frame is built of one and one-eighth inch tubing, and is made of fourteen, sixteen and eighteen gauge material. The frame head is of exceptionally strong design, and is formed from one solid drop forging. The height of the frame on the Greyhound is twenty-one inches, giving, with the special seating arrangement provided, a very low and comfortable riding position. The wheel base is long, being fifty-six inches, which, combined with the low center of gravity provided by carrying the engine in the position described, should give a very safe machine for greasy roads.

The handlebar is twenty-one inches wide and rises five inches from the head, has an extra heavy solid forged stem, and is fixed securely with an expander bolt. Single grip control is used, the connection being established by the use of one-sixteenth inch piano wire carried from the handle, and care is taken in avoiding short bends. This grip control gives a very neat and clean cut appearance. Two and one-half inch tires are fitted to all machines, which add materially to the rider's comfort. These are fitted to hollow steel rims, and very heavy spokes are used in the wheels. Extra wide mud guards of corrugated pattern are provided, with heavy braces, and a splasher of sensible dimensions is fitted on the front guard. The front forks are the well known cushion spring type patented by the Auto-Bi Company and used on previous models. They have extra heavy arched fork crowns, seamless fork sides, and heavy stems with solid reinforcements. These forks

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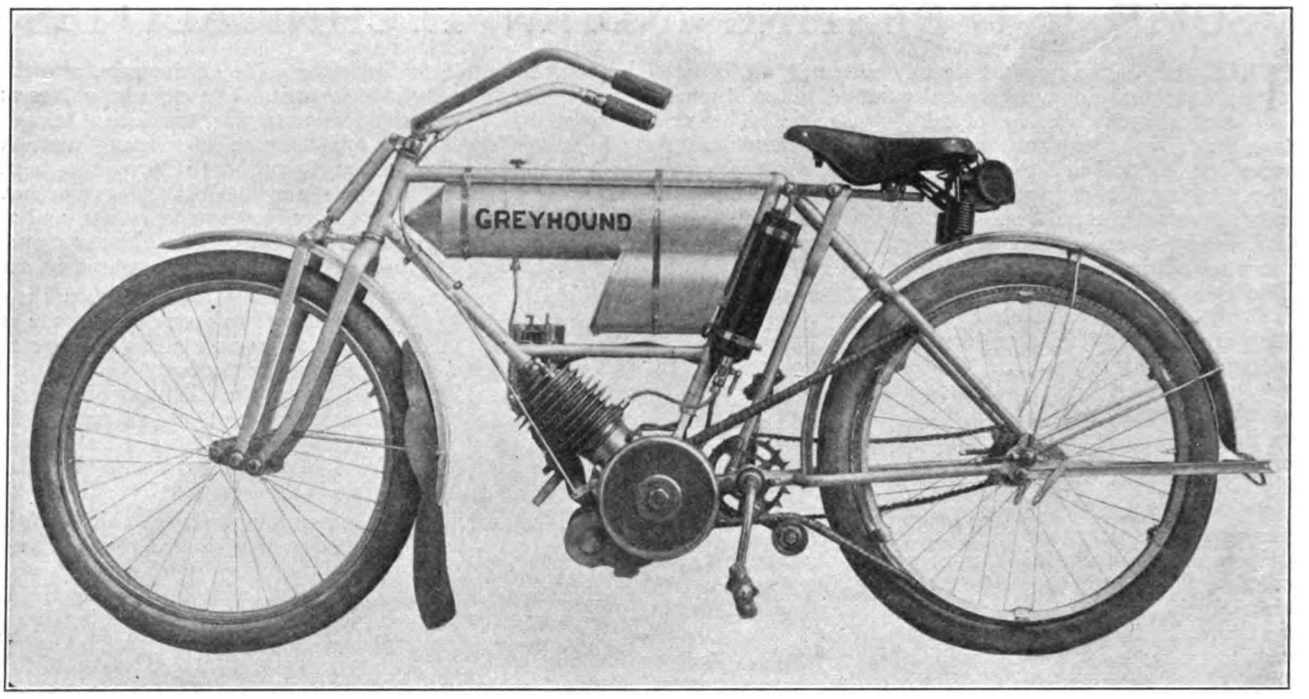

are on the truss principle, the truss being supported at the top of the fork stem instead of the bottom, thus throwing the stress over a larger plane and avoiding undue strain on the crown.

The head and the main fork follow the same lines as in bicycle construction, but, of course, are of much stronger material. At the lower fork ends are attached side plates or hinges of solid toughened steel. The two forward ends of these carry the Corbin hubs fitted to these machines, midway the auxiliary fork is fitted, running upwards to a bridge piece, and from the point where these forks are bridged a large diameter hollow tube is fixed, carrying a long spring of great strength. Over this spring comes the plunger guide and recoil spring, which is attached to the top of the head.

The seat-post shock absorber, as shown by the accompanying cut, is of specially good construction, and is on the cantilever principle. At the ordinary saddle mast connection two strong side hinge plates are fitted. Attached to these is a substantial oval loop, which continues downward toward the crank hanger bracket in the shape of a long tube. Inside this a long spring is fixed, which pushes a plunger guide that is attached to a T piece just forward of the hanger bracket. The oval loop passes over the rear fork, which is bridged above the rear wheel, and thence runs upward to its connection in single tube form.

The engine is 3-h. The bore and stroke is three and one-quarter by three and one-quarter; the crank shaft is made of a one piece forging with no end joints, tapers or nuts to work loose. The crank is hardened and ground correctly to size, and is perfectly true. The connecting rod is of very fine design, and is composed of phosphor bronze, and a special note should be made of the fact that this connecting rod can be adjusted to take up the wear. The fly-wheel is external, and is of large diameter, with the weight carried all in the rim, the belt pulley being cast integral with it. The fly-wheel and pulley are both specially hardened. Of course, balance weights are provided in the crank case. The cylinder and head are cast in one piece and thus the use of leaky gaskets is done away with. The inlet valve and carbureter are of specially good design, and are both remarkably accessible. They can be readily detached by the removal of two nuts; as the dome and the inlet pipe are made all in one, the exhaust valve, as well, can be taken out with ease.

Accessibility to the various parts seems to have been the study of the manufacturers of the Greyhound motorcycle, for it was noticed that the timing gears were very easy to get at, and the timing being arranged in such a simple manner that a rider could re-time his machine in the dark if necessary. The crank case is split horizontally, and the motor can be taken apart without removing it from the frame, thus allowing for easy inspection. The timing device has been improved and is made absolutely dust proof. Bushings are of extra large size, and are manufactured from bronze. The control is a very neat piece of work, with outside adjustment for the contact points provided, which is well worthy of notice. Splash lubrication is used, the oil being by sight feed from a large tank, the quantity being variable in adjustment from the saddle. A small flusher tube is fitted to the cylinder head to be used for easy starting. The ignition is by three No. 6 standard dry cells carried in a convenient box. A neat foot-operated cut-out is provided to the exhaust. An auxiliary exhaust port is also fitted on the side of the cylinder connecting with the exhaust pipe for the purpose of obtaining a freer and cooler running engine and the elimination of exhaust back-pressure. The muffler is well constructed and of large dimensions.

The carbureter is of the well known Auto-Bi float feed type, and is fitted as previously described. Transmission is by chain and leather belt combined; a heavier chain is now used, this being spirally wound with a raw hide which acts as a buffer between the metals. A spring idler is provided for tensioning purposes. The tanks are exceedingly well made and finished, the capacity of the gasoline tank being six quarts, and of the oil tank one and one-half quarts. It may be noted that a larger engine pulley giving a higher gear is provided for speed enthusiasts, or for racing purposes. This machine shows many points of interest and is built with a view to great accessibility and simplicity.

A very neat one piece stand for "jacking up" the rear wheel is part of the ordinary equipment. This mechanism, when not in use, is fixed to a secure spring clip bolted to the rear mudguard.

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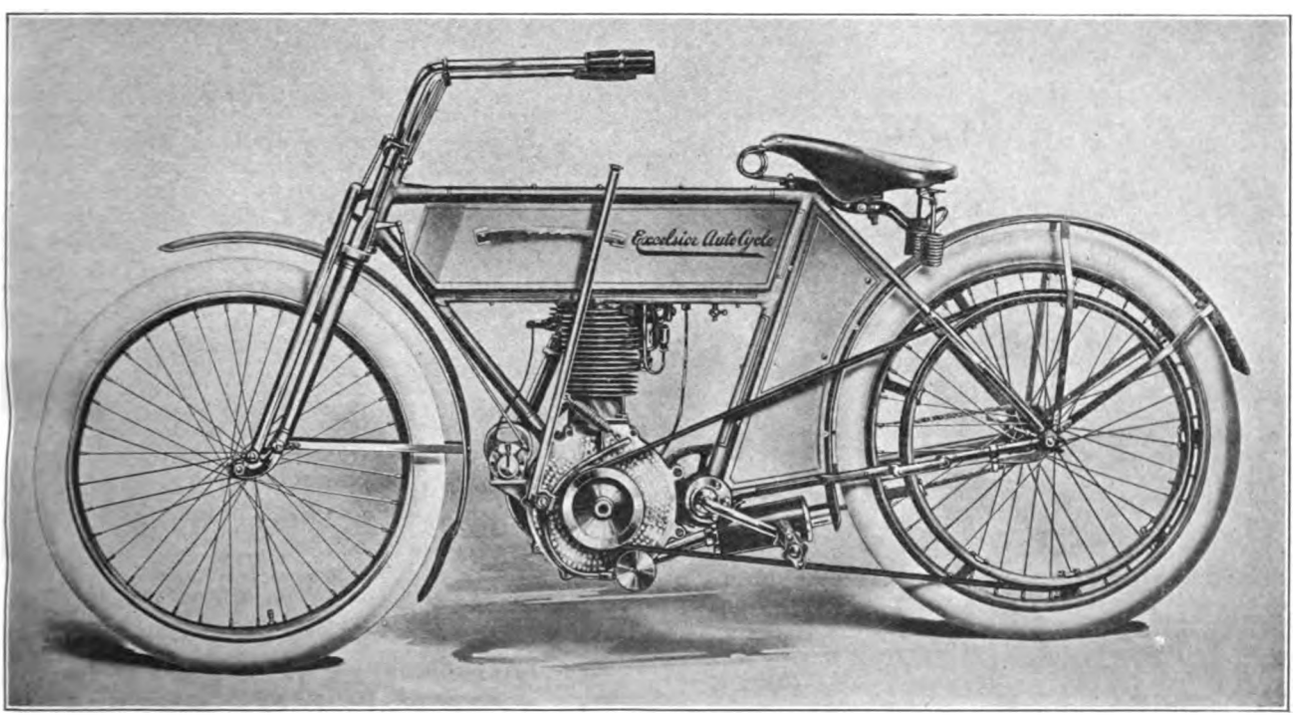
THE 1909 EXCELSIOR

THE Excelsior remains in many points the same as in 1908, but many improvements can be noted which have been the result of careful designing and testing on the road. The frame is very strongly constructed, with straight tube construction, the bottom tube ending in a flush joint bolted to the crank case, which is further supported by a bracket in front of the crank hanger bracket. The engine is also supported by a short lug, which fits onto the cylinder head and is fixed to the lower parallel tube in the frame. The wheels are twenty-eight inches in diameter and are fitted with 2½ inch tires. However, the company gives an option of twenty-six inch wheels to the purchaser, and on these models the frame is, of course, modified to meet the requirements of the smaller wheel. The tubing is cold drawn, seamless. "Reinforcements" or "liners" are of the center wall or "web" type. The frame head is of great strength, being a one-piece drop-forging of fine design. The rear fork ends are of great length, the slot being long enough to take up a stretch of five and three-quarter inches in the belt; the belt and wheel adjustment being entirely independent of each other and are, therefore, both capable of being kept correct at all times. The rear mud-guard ends are fastened to a lug integral with the frame, and are entirely independent of the rear axle. A similar lug is provided for attaching a stand. This idea allows for quick and easy removal of the wheel. The spring fork is composed of springs in the side extensions of the main forks running parallel with the head, with compound springs for recoil. The girder runs perfectly straight, and has a ten-inch liner at the top end and a six inch liner at the bottom. The side pieces, or links, connecting the two forks have bearings of bronze.

The engine is 3½-h., with 3¼ inch bore and 3½ inch stroke. The cylinder is a one piece casting, which construction eliminates the use of gaskets at the cylinder head. The cylinder walls are of uniform thickness. The piston is of specially light construction, and has three rings fitted. These rings are ground or faced on three sides and thus fit perfectly. The wrist-pin is held in place by recesses cut in the piston walls and the use of a spring washer.

Sight-feed lubrication is provided by an ingenious method. The oil is delivered through a sight feed to the right of the main crank shaft guide. This hollow crank shaft carries the oil to the crank pin bearing, whence it is thrown to the lower part of the cylinder by centrifugal force where a circular pocket gathers the oil and delivers it to the cylinder walls. The piston enters this pocket on each down stroke, and thus carries the oil to the cylinder wall in the usual way. The bearings are also thoroughly lubricated, and the oil passes through a tubular duct at the rear of the main left hand bearing by a check valve, and thence back to the crank case. This method, it will be seen, will tend to keep the outside of the crank case free from the leakage of oil and thus afford a very clean machine. The ignition on the Excelsior models is optional with the purchaser. Where the magneto ignition is fitted the magneto is put on a platform forward of the crank case. The magneto is gear driven, and is housed in an oil tight aluminum case. Where battery ignition is fitted the usual Excelsior apparatus is retained. The muffler is large and exceedingly well finished and should be very effective.

The transmission is by flat belt, with a spring tension idler provided for adjustment. By this means the rider can run his engine "free" for a short time. The tanks of the Excelsior are made of copper, with double lap seams. A very neat gasoline strainer is fitted to the base of the tank, screwed directly into it, with a pipe leading from this strainer to the carbureter. The capacity of the gasoline tank is two gallons, and of the oil tank about one quart. Needle valves control the supply of both gasoline and oil. Another interesting detail is noticed on the engine, this being the fitting of the automatic inlet valve dome. Instead of the usual screw dome covering the automatic inlet there is fitted a neat little cap, which can be easily pulled off by hand and yet is not loose enough to jolt off through vibration. A standard fitting on the Excelsior machine is a lamp bracket of special construction.



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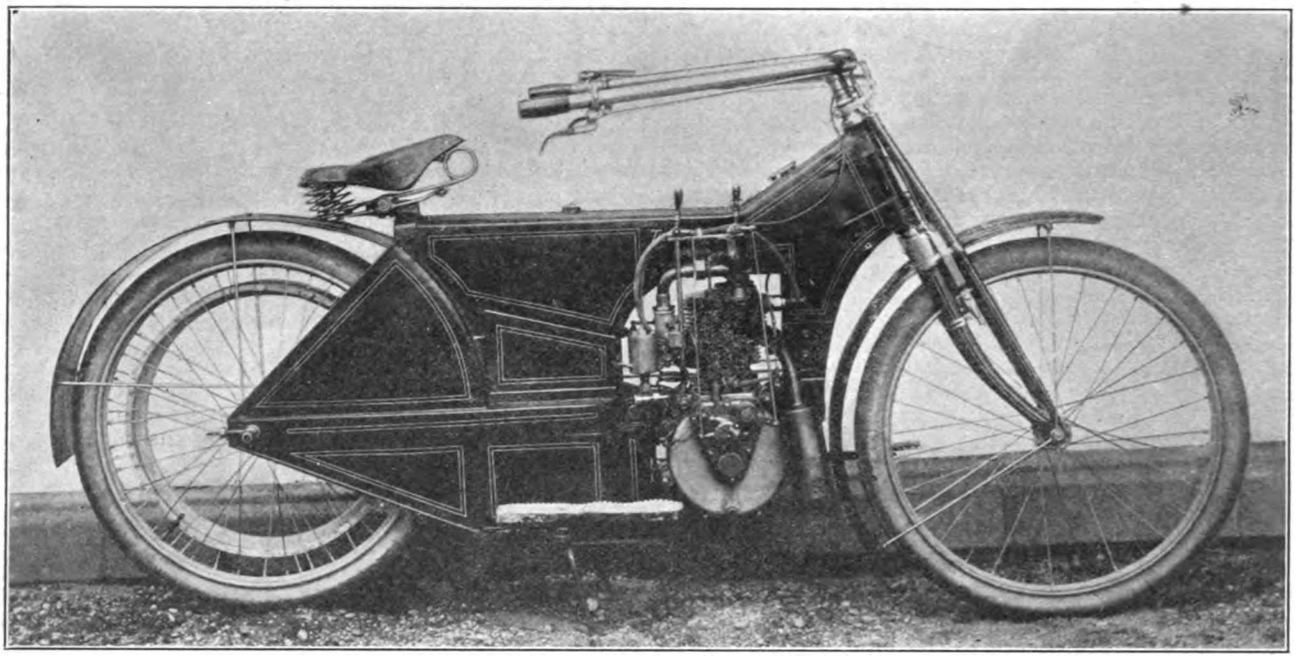
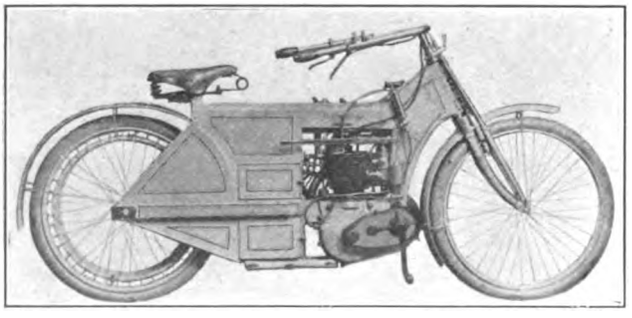
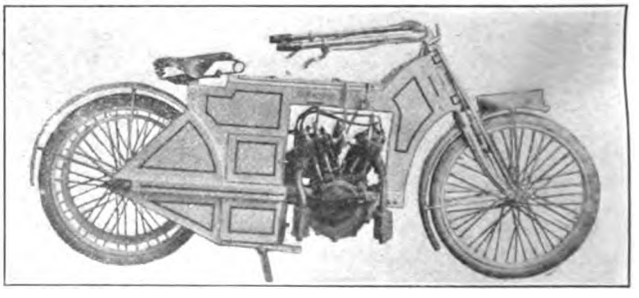


THE MIDGET BI-CAR

THE frame construction and design of this motorcycle is already familiar to readers of MOTORCYCLE ILLUSTRATED; the machines were fully described in the issue of November 1. It gives a low riding position, the saddle being thirty inches from the ground, and the frame is of channel steel construction throughout. Contrary to what one would think, this type of frame is no heavier than one of tubular construction. The gasoline and oil tanks and battery cases are all contained in different compartments of this frame. The machine has the advantage of accessibility to its various parts, and looks a very "clean" machine for bad weather riding, particularly as the back wheel is enclosed from the forks to the stays, and the rear mud-guard is exceedingly wide and of flat construction. The tanks are fitted with a very neat gasoline gauge, which is actuated by a positive float, and this float also serves as gasoline filler and filter. The gasoline tank is of large capacity (two and one-half gallons), and one quart of lubricating oil is carried in a compartment reserved for that purpose. The back wheel is easily adjustable, owing to the absence of the chain pedal gear, and a special stand is fitted to all models. On one of the models exhibited was noticed a hinged, or swinging engine, which device enables the motor to be swung quite clear of the frame by merely undoing one bolt and disconnecting the gasoline feed pipe. This should be of great service when grinding in the valves, and for "tuning up" generally.

The Druid spring fork is fitted to the various models. This consists of a main fork and girder, with truss bar at the crown, attached to two top hinges, and in the center two side plates or hinges, which are attached to the side of the spring which supports the head, this spring being further attached to lugs and brazed to either side of the fork blades. On the three models shown handlebar control was fitted to two, viz., the two speed and free engine model, and on the twin cylinder. This handlebar control is of very neat lever type, these levers operating Bowden wires. Under the right hand grip a Bowden valve-lift is furnished. On the right and left hand grips are two small neatly finished switches which control the dual ignition which is furnished on one model. The right hand switch operates the magneto and the left hand switch the battery ignition. The two speed gear fitted to this model is of the epicyclic or planetary system. The middle position of a lever, which is situated at the side of the tank, being the "free engine" position. Very comfortable sprung rubber foot-boards are supplied, and on the left foot-board a brake, operating on the inside of the V belt groove, is fitted. This belt rim brake is held free by a tension spring. The magneto fitted to the Midget Bicar is of Bosch manufacture. The twin cylinder engine is either a Peugeot or a Sarolea; the 5-h. Peugeot being 75 x 75, and the 5-h. Sarolea being 70 x 80 milometers. On the Peugeot externally operated inlet valve plungers were noticed.





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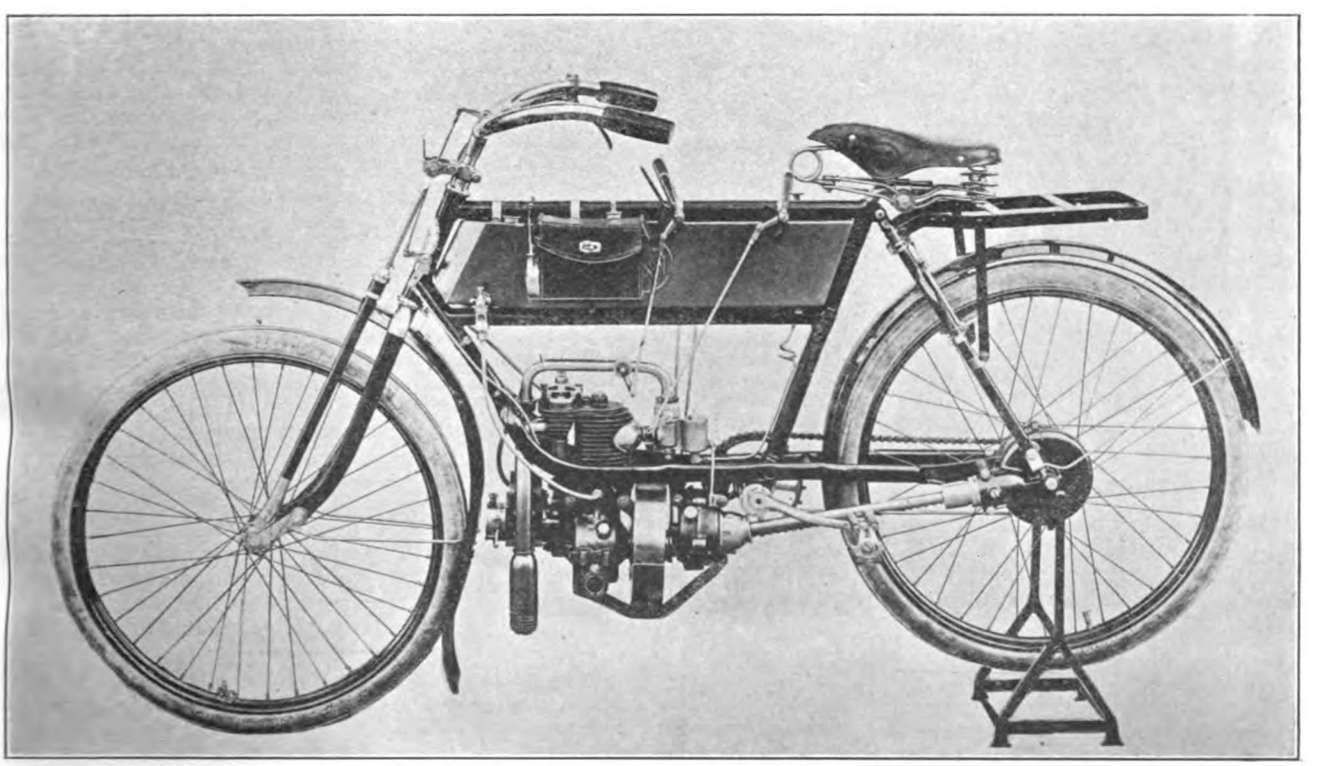
The magneto is driven by a chain running in a protected case. A front mudguard flap of very ample proportions is embodied in the design of these motorcycles. The transmission is by seven-eighth inch twenty-eight degree V belt. The tension of the belt is maintained by back adjusting screws in the same way that ordinary cycle chains are adjusted, the back brake being brought back with the wheel and kept in adjustment by the torque rod. This does away with the necessity for an idler pulley. Midget Bi-cars are fitted, at an extra cost, with the Brown patent adjustable pulley. The control is optional, either by lever or grip.

THE 1909 F. N.

THE center of interest at the booth of the Ovington Motor Company was, of course, the new F. N. single cylinder shaft drive lightweight. This has been christened, by Mr. Ovington, "Little Brother to the Big Four." This machine, with its outside fly-wheel, two-speed sliding gear transmission, cone clutch, etc., aroused a great deal of enthusiasm. It was described very fully in MOTORCYCLE ILLUSTRATED of January 15th, and at the Show the machine was substantialiy as described. The F. N. four cylinder, or as it is popularly called, "The Big Four," was among the missing at the Show, that is there was no new model there. The first machine that the Ovington Company will receive is still in transit. Of course, there was a four cylinder F. N., but it was a 1908 model. This, however, was very interesting to visitors, as the cylinders were cut away to show the operation of the engine. The machine was shown running, the actuating power being a small electric motor which was belted to the rear wheel. The improvements of the 1909 machine are to be more in the nature of refinements and additions, rather than radical changes. To meet with popular demand, complete handlebar control has been fitted; not the twist grip control, but the automobile type. That is, there are two small levers situated in the right-hand grip, where they can be readily operated. In this way it is a very easy matter to see the exact position of the levers and to change them as occasion requires. Furthermore, in rough riding there is no danger of changing the position of the throttle unintentionally.

The F. N. has always been fitted with two brakes, one being a drum brake, and formerly an auxiliary rim brake was fitted. This brake has now been replaced by a hand brake which acts upon the same drum, only from the outside, as that upon which the internal expanding drum brake acts. In other words, at first glance what is really two brakes appears as one, there being a contracting hand brake acting upon the drum of the internal expanding drum brake. This makes a very neat as well as a very powerful arrangement. The 1909 machine will be fitted with either footrests or pedals as standard equipment, and both may be obtained as an extra. If the footrests alone are employed the brakes are operated by means of pedals, which may be actuated without removing the feet from the footrests, very much as if one were operating the brakes on an automobile. If pedals are used, the drum brake is actuated by back pedaling. as is customary in America.

Those who desire two speed gears will find the sliding gears of the new F. N. attractive. Not only on the four cylinder, but also on the new single cylinder, there will be sliding gears employed of the same general type as those used on a car. Between the high and the low gear there will be a free engine position in each case. The device for lifting the exhaust valve has been changed from the right to the left grip, and has been altered so that the amount of force necessary to lift the four exhaust valves is very much less than in the earlier machines. The Ovington Company wish it stated that the F. N. Co. last year built up no less than three different engines of larger capacity than the present, and also a mechanical valve engine, but they did not find any of these motors as efficient and generally desirable as the present model. For this reason the "F. N. Big Four" will be fitted with an engine of the same capacity as that used last year, but on account of slight changes in the carbureter and lighter pistons being employed, higher speed may be obtained.



LITTLE BROTHER TO THE BIG FOUR

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WHAT THE EXHIBITORS THOUGHT OF IT

The show has been fine. Business, judging from our own viewpoint, has been very good, and prospects are bright. With general business conditions throughout the country improving I think it will be an excellent season.

EDWARD BUFFUM.

There is no question whatever but that it is the greatest show, as far as motorcycles are concerned, that was ever held in this country, both in number and style and extent of exhibits. As far as business goes, it has been away beyond the limit. We are more than satisfied.

GEORGE M. HENDEE.

There was more interest displayed in the show, more people called to see it, and there was more business done through it, than I expected. The main feature in the N. S. U. exhibit was the twin cylinder, 3-h. lightweight. Interest in passenger carrying attachments is increasing greatly. Our one show tricar has been sold outright, and two others contracted for.

EUGENE KICHERER.

In my opinion it is the greatest exhibit of motorcycles ever brought before the public. There was more business done in this show than in any other that I have seen. I think orders have increased more than 100 per cent. The Excelsior, anyway, has no kick. We are established in New York City and in the New England states by the well known and gentlemanly fellow, Mr. Stanley Kellogg. He is well known to the public. We predict a very prosperous year for him.

J. S. WOODWORTH.

It is the most successful show from every standpoint that I ever had any connection with.

EARLE L. OVINGTON.

It was very good. The amount of interest that it aroused shows without any doubt that the public appreciate what a motorcycle is.

A. B. COFFMAN.

I am very much struck with the Exposition. I had the pleasure of having exhibits in the very first motorcycle show that was held in this country. That was nine years ago. Only two makes of machines were shown then. Compare that with this. The improvements and advancements in the past two years in the entire industry are marvelous. The business outlook for the present year seems to be as encouraging as the advancements in design and construction noticed in the different machines. The people who are interested in the motorcycle today can be described as being very classy, and that in my estimation means a good solid future for all those who are engaged in the business.

GEORGE W. SHERMAN.

The show has been a grand and glorious success from beginning to end. I do not think that a great deal has been done in the way of direct buying; but in regard to the agency proposition considerable interest has been displayed.

E. N. SMITH.

The show has been very satisfactory to us. Inquiries have been good and we have several agencies under consideration. Of course this is the first time we have exhibited, and we cannot compare notes with other shows. We have no doubt that the agencies will materialize later.

S. CROUCH.

We have done more business than we expected. In fact, our output is sold, with the reservation of some machines for the East, for the season of 1909. We have made arrangements with many eastern agents for the sale of New Era machines. These will be made known in the near future.

J. C. TURPIN.

It is unquestionably a great deal better than ever before. Next year we will be on the main floor and the automobiles will be relegated to elephant row. We are practically sold out for the year.

HENRY J. WEHMAN.

We have done a great deal more business than we anticipated. In consequence we are wearing "the smile that won't come off."

W. H. IVES.

As far as my observation has gone I think it is the most successful show we have had. The young man who has charge of the exhibit tells me that he has made more direct sales than he has ever made before at a show, and the fact that the booth is always crowded would indicate that there is a great deal of interest felt.

GLEN H. CURTISS.

I am very much pleased indeed with the way the motorcycles have shown up. I think that if we had a show of our own that we would do much better and be at a greater advantage. Things look first rate, and we are very much pleased with the prospects.

WILLIAM C. CHADEAYNE.

We are very pleased with the outcome. We have secured a good many new agents and got some satisfactory contracts. The public have taken well to our machine, and we are looking for a very successful season. The Tiger Cycle Works will handle the Royal Pioneer in Greater New York.

E. V. HILL.

It is a great show. One of the greatest, if not *the* greatest, ever held in the United States. It is creditable to the motorcycle manufacturers, and shows the advance in construction, design and durability by comparison with previous years. We are well repaid by the interest that the public have shown. This interest was never more manifest than in the 1909 show. I consider the outlook for the motorcycle industry most encouraging.

WILLIAM F. REMPPIS.

The most successful show ever held, both from the standpoint of interest it aroused and the sales made through it. The outlook is very promising from present indications, judging by the interest shown by visitors and the amount of business closed during the week.

J. F. MCLOUGHLIN.

Business has been better than we anticipated. If everyone has made out as well as we have there is no kick coming.

ARTHUR DAVIDSON.

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WITH THE ACCESSORIES

F. A. BAKER & Co., NEW YORK CITY.—This well known supply house had a very complete exhibit of every type of accessory and motorcycle fitment. Various well known types of headlights were shown, some very fine examples of those of the separate generator type being staged, including the Eclectic, the Baby Grand, the Solar and several other well known makes. The Solar is a very fine specimen of manufacture of the searchlight type of lens headlight. It is practically a miniature motor car lamp, is made of heavy reinforced, riveted brass, its dimensions being six inches high and four and one-half inches long. It is fitted with a powerful four inch Solar lens mirror reflector. This lamp is made for a standard lamp bracket which fits in a casting neatly concealed inside the back of the single piece body. The bracket fastens to the lamp with a set screw and to the handlebar stem with a clamp. Special brackets for each standard make of motorcycle are being prepared. The generator is made from seamless drawn heavy brass. It has a screen in the carbide cup which is handy for cleaning purposes, and it has strong bracket lugs fitted to the back. This is an ideal lamp for touring purposes. Many other excellent lamps were also shown, some being of the separate generator type and some with generator and lamp complete. An excellent selection of brackets was exhibited for practically every standard machine. A very complete stock of horns was shown, an excellent type of road clearer being the Duplex motorcycle horn. The well known Sager cushion fork was exhibited, also toe clips of the same make. Some new types of goggles were exhibited, these being splendidly finished. Of course there were tires and tubes in plenty, and all forms of repair necessities. A good moderate priced stand was shown, this being made for attaching to the back stays of the machine. All well known types of speedometer and cyclometer were exhibited. A well designed hinge belt fastener was shown, which is made for two or more ply belts. This fastener fits flatwise in the center of the belt, and thus, being protected by the belt, should have long life. Some very fine types of locking and other tool bags, kits and carriers, were exhibited, and every type of tool which a motorcyclist could require. The well known Simplex specialties, the adjustable pulley, etc., were also stocked, and another adjustable pulley of very good construction and of moderate price was noticed. Spark plugs, batteries, magnetos and every form of electrical fitting were shown, also coaster brakes, including the well known Corbin and the Thor were exhibited. Altogether this exhibit was of undoubted interest to the motorcyclist, as F. A. Baker & Co. cater to his utmost needs.

H. & F. MESINGER MANUFACTURING COMPANY, NEW YORK CITY.—A very fine exhibit of motorcycle saddles was staged on the Mesinger stand. Nine different models were shown, five of Cavalry type and four of Standard pattern. The Cavalry is a very fine type of saddle, and the No. 3 is the Mesinger leader for this year. This saddle has a very fine spring system, and is fitted with shock absorbers, these being attached between two rear springs to check the rebound of the extension spring, thus minimizing the lateral sway which is so unpleasant to the rider. This construction also prevents the breakage of springs. It was noted that the shock absorbers are adjustable and can be fixed to suit the weight of the rider by loosening a lock nut and adjusting the side bolt to the desired tension and spring, and tightening the lock nut again. A front torsion spring is fitted, with a hinged joint. The Cavalry motor saddle is nicely padded with curled hair, and is curved in such a way as to give a very comfortable and safe riding position. It is made in three sizes, from twelve inches long by nine and one-half wide to fifteen inches long and eleven inches wide. The larger Cavalry is constructed with a short pommel, and is specially suited for heavy riders. Cavalry No. 1 is made in two patterns, one having compound springs and the other compression springs.

The Standard saddles have flexible selected leather tops reinforced in the center. These are all fitted with shock absorbers, and are made in four sizes. The saddle clamps are all forged of spring steel, and are of strong construction. These saddles are well noted for the extreme comfort that they give to the rider. Also shown by the Mesinger Company was a chrome leather tire repair band. This tire band is made of mineral chrome tanned leather, of splendid wearing quality, and is tough, soft and pliable. Heavy, strong eyelets are fixed in the sides and the band is secured in place over the rim with a strong lacing. This should be of great use to tourists, as it can be used for repairing blowouts, rim cuts or any other defects of the casing. Also shown was an inside tire repair band made of strong fabric with bevel edges and so moulded as to fit the inside of the tire. This inside band is a quick and permanent repair device for a defective casing. A very fine specimen of tool bag was also shown. This is very strongly made, being both sewn and riveted and provided with metal ends.

PARKER MANUFACTURING COMPANY, BOSTON, MASS.—Two models of the Standard speedometer were shown, both with sixty mile dials. One is a speedometer alone, and the other has a season odometer attachment, which registers up to ten thousand miles. Both instruments are very compact and neat in appearance, and they will retail at, respectively, $15 and $20 each. The new construction of the governor in these instruments allows a very fine adjustment to be made, and the Standard people guarantee that no instrument will vary any more than one-quarter of a mile at any one point in the scale from the absolute speed at which it is running. The method of gearing the Standard is novel, and very much more simple than the usual style. The driving pinion has twelve teeth and the driving gear, which attaches to the spokes of the wheel, has the same number of teeth as the diameter of the wheel is in inches. That is, a twenty-six inch wheel takes a twenty-six tooth gear, and a twenty-eight inch wheel requires a twenty-eight tooth gear. The connection between the gear wheel and pinion is made by a right angled beveled gear. This is claimed to be of great advantage, especially on spring fork machines, which usually have a certain amount of play sideways. This, of course, interferes seriously with the meshing of bevel or crowned gears. Another feature of the Standard is the steadiness with which the indicator operates. With the arrangement of the governor as adopted in the Standard instrument, it is claimed that neither road vibration nor that of the motor itself can affect the pointer.

MOTOR CAR EQUIPMENT COMPANY, NEW YORK CITY.—This company exhibited several accessories of interest to the motorcyclist. There was a fine miniature headlight with mirror lens on the automobile style and with the focussing attachment or projector fixed in the center of the lamp behind the lens by the means of three stays and a security ring. This lamp is of the separate generator type. Also shown was the well known Blanchard horn,

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this being of triple twist construction, finished in polished brass or nickel, and made in two sizes. Some special lines of imported goggles were noticed, one being of specially good design for winter purposes. It is equipped with a large mask as a protection against bad weather, this mask being detachable. It is made of fine kid leather, fur lined. Various types of the well known Bray motorcycle lamp burners were shown, the light giving qualities of which are very well known. Also noticed were various types of the "Ever Ready" flash lamp, these being a very useful addition to one's kit for the purpose of quick adjustments at night. A combination lock and switch was shown, adaptable for automobile purposes only, but the writer was informed that a pattern for use on motorcycles was being constructed and would be ready shortly. This is an actual combination lock with three numerical combinations, with a switch which only acts when the levers and bars are properly placed. This is a splendid idea for the prevention of theft, and the mechanism is most ingenious and cleverly thought out. The motorcycle pattern, it is stated, will be ready in March.

NEW DEPARTURE MANUFACTURING COMPANY, BRISTOL, CONN.—One of the most remarkable exhibits at the show, and one that never failed to gather its crowd to watch the wheels go round, was that of this concern. It consisted of two 1,000 pound fly-wheels, mounted on New Departure "Two-in-One" annular ball bearings. These fly-wheels were rotated in a vertical plane, and at the same time, on their own axes, thus showing the capabilities of the bearings in carrying loads at every angle from absolute thrust to direct radial. The exhibit was gotten up, of course, to demonstrate the efficiency of "Two-in-One" annular bearings. In the operation shown the bearings carried loads from every angle. The horizontal shaft, as shown, is supported by two pedestals. The right angle shaft is fixed transversely at the center of the horizontal shaft. The fly-wheels are mounted at each end of this transverse shaft, and each wheel revolves on its own center. At several points the stresses are so extraordinary as to astonish engineers who are familiar with the limitations of the work of single row ball bearings. The motorcycle designers and others who visited the New Departure booth were specially struck with the exhibit, suggesting, as it did, any number of adoptions of Two-in-One bearings for motorcycle use.

ROSE MANUFACTURING COMPANY, PHILADELPHIA, PA.—The very substantial Neverout motorcycle lamp manufactured by this concern was shown, the same in lines and material as marketed last year. Those riders who have used the Neverout lamps and generators have found them very satisfactory. The generator is of large capacity, despite the fact that it is not of great size itself, and will burn the large automobile type double focus Neverout lamp for six hours. One of the strongest points of this outfit was the very substantial brackets furnished for both lamp and generator. These are made after the automobile type; that is, for the lamp two distinct brackets are used, fastening to the double head forks and terminating in a right angle bend at either side of the lamp. The lamp itself has two strong receptacles built into it on either side. Another lamp was shown by the Rose Manufacturing Company, which though not entirely new, has been adapted for motorcycle use. This is their little bicycle oil lamp. There are many riders who occasionally get caught out after dark just as they are coming into a city and who want a lamp to carry them home, a ride possibly of twenty minutes or half an hour. For such a purpose this lamp would be ideal, as it has an entirely new and very substantial bracket that will hold it securely to the frame, so that there is no danger of losing it.

BADGER BRASS MANUFACTURING COMPANY, KENOSHA, WIS.—The new Solar motorcycle lamp and generator, shown for the first time by this concern at the Grand Central Palace Show, was again on exhibit at the Garden, and it is safe to say that nearly every motorcyclist present who reads and who is posted on motorcycle events climbed up into the balcony especially to see it. The lamp has a searchlight type of lens mirror of the same design and construction as the large Solar motor car lamps. It is made up of heavy brass reinforced and riveted. It is nickel finished. The lamp is 6 inches high by 4½ inches long. The lens mirror is a powerful removable four-inch B. & L. of the highest grade. It is made for a standard flat bracket, similar to the substantial brackets used on imported lamps. The bracket fastens to the lamp with a set screw and to the head of the machine with a clamp. The bracket itself is a very substantial casting, and special designs are made to fit the standard machines. The generator is the regular Solar type in miniature. It is made from seamless drawn shells and heavy brass, and has a carbide capacity of ten ounces. The carbide cup and receptacle for the residue are separated by a fine screen, through which the pulverized carbide sifts. This not only insures the rider of fresh carbide in contact with the water supply, but also simplifies cleaning. For the generator also brackets are made for all the standard machines. The outfit is listed at $9, of which $5 is for the lamp.

MORGAN & WRIGHT, DETROIT, MICH.—At the booth of this concern was shown all of their motorcycle and automobile tires. There were three of the former, that is, three different treads—the basket weave, Bailey and the new corrugated tread. There was also shown the light racing-type Bailey tread tires which the Morgan & Wright Company make up especially for racing purposes, and which were fitted to the winning machines in the F. A. M. National Championship races at Morris Park. These were, of course, shown to the motorcycle enthusiasts who visited the Morgan & Wright booth. Then there was the Morgan & Wright Butt-End Tube. On the little pamphlet describing this there is a clever little cut. A child is shown tied round the waist to a post, with the catch, "It can't creep." That pictorially describes the M. & W. Butt-Ender. In this a hole in the canvas strip hooks over the valve-stem and holds the tube firmly in place, whether inflated or deflated. The very heavy automobile stock incorporated in the make-up of all M. & W. tubes was very noticeable. The M. & W. basket weave tread is made in the single clinch, and the Bailey and corrugated tread tires in the double clinch type.

THE ECLIPSE MACHINE COMPANY, ELMIRA, N. Y.—A very interesting exhibit of coaster brakes and motorcycle front hubs was shown by this concern. The Eclipse coaster brake is made of the highest grade of materials throughout, and was one of the lightest and most compact brakes at the show. It had very few working parts, and a little explanation by the demonstrator in charge explained to the visitor why there is no friction or drag when the wheel is coasting. The Eclipse has no arm, and though it has a very large braking surface, there are only eight parts in it that are not used in the plain bicycle hub. The Eclipse motorcycle front hubs have been greatly improved by making them with a knock-out axle. The axle passes through a quill, or sleeve, and the wheel is easily removed by taking off one of the axle nuts and then slipping out the axle. This is a very great convenience, as it is almost impossible sometimes to spring the heavy front forks used in motorcycle construction over the ends of a stationary axle, especially when one man is trying to do the job alone.

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B. F. GOODRICH COMPANY, AKRON, OHIO.—An entirely new butt end tube was exhibited by this company. This tube is made in one straight length, the two ends being vulcanized into flat form. The method of attaching this tube is very simple, a hole with a metal ring fitted slipping over the valve, the valve lock-nut being screwed on top of this. The extra flap, which is "left over" from the valve, is about eight inches in length. This buttons through an eyelet provided in its end onto a rubber stud button, which is fitted some ten inches from the other end. Thus the flap cannot curl or get nipped, but is kept in its place when the tube is inflated. The two vulcanized ends of this tube are backed with prepared canvas, and the back of the button-hole is also protected in this way to prevent any likelihood of tearing the end. The tube in question is manufactured of very fine Para rubber, and should prove to be of very lasting qualities. At the Goodrich booth was shown also an entirely new moulded tire, with heavy tread, which is sure to become very popular this season.

VEEDER MANUFACTURING COMPANY, HARTFORD, CONN.—The well known Veeder odometers, tachometers, tachodometers and speed counting devices were shown by this concern. An example of each was connected up on a board and shown in operation, a small electric motor being the actuating device. These goods have been on the market for so long that all motorists are familiar with them; but there is always a fascination in watching the wheels go round, and the Veeder booth always drew its crowd. Especially for motorcycle use is the Veeder cyclometer. Many riders have found these so valuable when on the road that they depend on them absolutely to show the proper time for oiling. In fact, without a cyclometer, some of the boys wouldn't know when to oil at all. These little instruments are listed at $2 each.

G & J TIRE COMPANY, INDIANAPOLIS, IND.—At this booth motorcycle tires occupied a quite important position. There were five of them there, all 28 inches x 2½ inches, with Bailey, Basket Weave and Raised treads. There was also the latest from the Indianapolis factory, the moulded tire with corrugated tread. Then, on a table at the front of the booth, were sections of these tires and one of the new G & J socket joint tubes. This seemed to appeal very strongly to all of the riders. It was the first opportunity, too, that most of them had to examine this latest product. Of course, all of the tires were shown on G & J double clincher rims. These, by the way, are being fitted more and more generally by all manufacturers. It is the new moulded tire, with the heavy corrugated tread, that the G & J people believe will prove their most popular seller this year. This is a perfect automobile tire in miniature, and was shown on many of the machines in the basement as well as at the G & J space.

LEATHER TIRE GOODS COMPANY, NEWTON UPPER FALLS, MASS.—The popular Woodworth adjustable tread made up several years ago for automobile use, and lately made in motorcycle sizes, was shown by this concern. This is nothing more or less than a broad leather covering that extends over the whole surface of the tire and is secured by a condensed wire fastening through loops on either side. The leather is studded with four rows of hat-shaped rivets. The leather is very tough and chrome tanned, and the rivets, which are of steel, go clear through and clinch. It has an outer armor for the usual rubber tire which is insurance against punctures and those other annoyances that occasionally make the motorcyclist's life anything but joyous. The 26 x 2½ inch size is listed at $7, and the 28 x 2½ at $8.

PITTSFIELD SPARK COIL COMPANY, DALTON, MASS.—This concern had its Type A and Type B motorcycle coils on view. The former is 6½ inches in length and the latter 6 inches. Both are very much the same, Type A having a tapered end instead of a square end, as in Type B. Both are designed for use with three dry cells, and are of the four terminal type. This concern was also showing its new jewel tension magneto plug. This has two points between which and the central electrode the spark occurs. With the large service thus afforded it is practically impossible for the hottest magneto spark to burn out the points on the plug. The motorcycle plug in this type is listed at $1. The plug is mica insulated, of small and compact size, and the electrodes are made from a special material selected to withstand the intense heat of a high-tension arc flame.

JEFFERY, DEWITT CO., NEWARK, N. J.—The Reliance spark plugs made by this concern were fully described in our issue of January 15. At this show both the sheath type and standard type plugs were on exhibition. Reliance spark plugs have been put out for test with all the motorcycle manufacturers, and the Jeffery-DeWitt Company are highly pleased with the returns that are coming back to them. The makers all give their unqualified praise. In England, where Reliance plugs have been on the market for some time, orders are coming in every mail. Reliance plugs are thoroughly guaranteed, and are tested and inspected at the factory before packing so as to assure absolute satisfaction. The sheath-type plug especially promises to prove most satisfactory for machines fitted with either battery or magneto ignition.

J. HARRY SAGER, ROCHESTER, N. Y.—Mr. Sager was on hand with his famous spring fork. This was shown attached to an Indian fork, but it can be adapted to almost any other machine that is not already fitted with some form of spring fork. The Sager cushion device is a regular equipment this year on Harley-Davidson and Yale-Toledo machines, and it is also fitted to the Fowler-Manson, Thiem, Armac, Wagner, Curtiss and Mayo machines, when so specified, by the purchaser. Mr. Sager was also showing some of his specialties for automobile use, such as spring shock-absorbers, buffers, etc., also a removable rim for automobile use.

E. M. BENFORD COMPANY, MOUNT VERNON, N. Y.—The Monarch plugs shown by this concern are well known among motorcyclists. The American Motor Company has fitted them quite extensively on M. M. machines for several years. They are made with both porcelain and mica cores, and one of their features is the ease with which they can be pulled apart for cleaning. The plug is a very neat little affair, about two and one-half inches in length, and is furnished with regular clip connections, or special connections for the Indian, Thor and R-S machines. The Benford people guarantee satisfactory results with their plugs and will refund the price, which is $1, any time within ninety days, should they prove unsatisfactory.

WHITNEY MANUFACTURING COMPANY, HARTFORD, CONN.—Samples of all the several types of chains were shown. These included small block chains and all the different sizes of roller chains made by this concern for motorcycle and automobile use. The new Whitney roller chains are very superior in strength and wearing qualities. For instance, the pitch in the new chains is considerably stronger than in the earlier models of the same size. These improvements tend to increase the efficiency of the chain drive by enabling the same strength to be obtained by the use of a shorter pitch chain than formerly. This also eliminates noise to a considerable extent.

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HERZ & Co., NEW YORK CITY.—Many of the new Herz magnetos were shown on the machines exhibited in the motorcycle section, and at the booth of the Herz Company, in the gallery, one of them could be examined closely. The construction of the machine does not follow conventional practice. Instead of the usual horseshoe magnets a cylindrical enclosed field system is used. The magnets are composed of several flat steel rings clamped together, with the armature tunnel cut in them. The surfaces of the rings are ground with extreme accuracy, so that when clamped together they form an almost perfect magnetic contact. It is for this form of construction that the strongest claims are made relative to Herz magnetos, as the magnets are thus made exceptionally powerful. Another striking feature is that the usual independent pole pieces are dispensed with. This method of arranging the magnets makes it possible to readily construct a magneto for multiple cylinder engines in which the cylinders are set at varying angles. That is, while it is difficult to build the usual type of magneto for a twin engine with cylinders at a forty-five or fifty degree angle, with the Herz construction it is a relatively easy matter. The fact that every magneto that is built by the Herz Company has been contracted for by various manufacturers throughout the country is a very good indication of the popularity with which it has been received.

WITHERBEE IGNITER COMPANY, NEW YORK CITY.—Though this concern has not gone into the motorcycle field to any great extent, it has furnished a number of private owners with Wico spark plugs, for use with magneto machines. This plug is designed especially for this use, and has a very fine micrometer adjustment by which the spark gap can be regulated to 1-1000 of an inch. Its electrodes are unusually large. This concern is also showing some of its specialties, such as polarity indicators, hydrometers, ignition cables, etc.

COLUMBIA LUBRICANTS COMPANY, NEW YORK CITY.—This concern was exhibiting its well known oils and greases. To the caller of an inquisitive turn of mind its demonstrators would discuss very fully the question of gas engine lubrication, and explain how viscosity should vary with the work performed; also much talk about cold tests, refining oils, filtering them, etc., etc. For motorcycle engine use tfiey recommend their medium and heavy grades.

A. R. MOSLER & Co., NEW YORK CITY.—This is the eighth year that Mosler Spit Fire plugs have been on the market. They have made themselves very popular with automobile users, and, during the last two years, small sizes have been made for motorcycle use. They are furnished in standard sizes for magneto and battery use, with both open and enclosed sparking points. Porcelain cores are used on all of the safe types.

STANDARD LEATHER WASHER MANUFACTURING COMPANY, NEWARK, N. J.—Among the specialties shown were some motorcycle grips. Both the short sponge rubber type, and also a new eight inch one was shown. This has a roughened surface and has a knob on the free end. There was also an insert shown, that is, an inside tire band, which is made for two and two and one-half inch tires at a list price of $1.25. One of these placed inside a tire shoe at a weak point will effectively prevent blowouts. This concern showed also a very complete line of all manner of tire patches, cements, vulcanizing materials, etc. Among the tire patches was one lined with wool felt, for which the claim was made that no matter how hot the tire becomes, it is impossible to melt the patch off, as the felt is a non-conductor of heat.

EMPIRE AUTOMOBILE TIRE COMPANY, TRENTON, N. J.—One of the real big things at the show was the 2¾ inch raised tread tire, made by this concern, that was fitted to the twin cylinder Harley-Davidson. It was "big" in every way. The tire is moulded to shape, and the raised tread is put on it in exactly the same manner as employed in building Empire automobile tires. Despite its size, the tire is not extraordinarily heavy. Up in the Empire exhibit there was, of course, the famous red rubber "butt-ender." There were also Empire tires in 2¼ and 2½ inch sizes, with both Bailey and corrugated treads. The 2¾ inch tire is the largest that has ever been made for motorcycle use, and on big twin cylinder machines, or for tandem or tricar work, it is sure to become very popular.

C. F. SPLITDORF, NEW YORK CITY.—Among all the ignition specialties shown by this concern, such as magnetos, spark coils, etc., there was only the Splitdorf plug that appealed to the motorcyclists. These were of the familiar type that this company has manufactured and marketed so successfully, both open and enclosed. The latter is rather new, and is intended especially for machines fitted with magneto ignition. Both have the familiar Splitdorf mica core construction. There were several things in the Splitdorf exhibit that were interesting, especially the arrangement showing a spark plug operating in a chamber under 100 pounds pressure. This was gotten up especially to show the size of the spark generated by the Splitdorf magneto as it is in actual service.

CORBIN SCREW CORPORATION, NEW BRITAIN, CONN.—This concern had an exhibit with the New York Sporting Goods Company. Here one of the big new No. 9 brakes was shown, connected up to a rear wheel. The pedal crank was turned by hand and then suddenly back pedalled, a move which put the brake on just about as hard and as suddenly as it would be under actual riding conditions. This No. 9 brake, while it follows the general line of previous Corbin brakes, is built throughout for motorcycle use. It is larger and stronger, and has a larger breaking service. The axle is ½ inch, and inside diameter of the brake-drum is three inches. The brake shoes themselves are ½ inch wide, giving a very large service. The complete brake is 5⅜ inches long outside of the cones. They are made either for chain or belt-drive motorcycles. Also on exhibit was the Corbin front knockout axle hub. Both of these were shown also on the Indian exhibits in the basement.

ROBERT BOSCH, NEW YORK CITY.—At this booth was shown the Bosch motorcycle magnetos, Types D. A. 1 and D. A. 2. The former is intended for light powered single cylinder engines and is a very compact little device. It weighs only five pounds complete. It is, of course, of the usual Bosch high tension type, in which the current is produced in the armature winding without the use of separate coils. Type D. A. 2 is also made for single cylinder use, though this is the size that is furnished for use with twin engines. These magnetos were fitted on a large number of the show machines in the motorcycle section.

R. E. HARDY COMPANY, NEW YORK CITY.—This concern was exhibiting an especially cute little plug gotten up for motorcycle use. It is only about two inches in length, has a mica core, and can be taken apart in an instant for cleaning. It is called the Sta-Rite No. 51, and follows the usual lines of construction used by the Hardy Company, except as to its size. It is fitted with special terminals for the Indian, Thor, etc., in addition to the regular terminal nut.

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CLUB NEWS

SAN FRANCISCO motorcyclists recently held some very interesting tryouts on the sands of the Beach, below the famous Cliff House and Seal Rocks. The smooth sand and long stretches of even traveling have long been a tempting place for the local speed chasers to try out their machines, but owing to the fact that a permit must be secured for this purpose the local motorcyclists have not been in a position to take advantage of the pleasures which riding on the beach afford. This permit was finally secured and on Sunday, December 20, the members of the club congregated in force and enjoyed a very pleasant day. The event was merely an initial one, but it proved that some interesting contests can be held which, owing to the nearness to San Francisco, will allow a large portion of the population to witness contests in the future. There is a stretch of beach about eight miles long on which the local racers hope to eclipse some of the records that have been made at Florida Beach in times past.

At the last regular meeting of the San Francisco Motorcycle Club the following were elected to hold office for the ensuing six months: J. P. Blair, President; A. W. Green, Vice-President; A. Chelini, Financial Secretary; P. L. Peterson, Recording Secretary; A. Schneutenhaus, Treasurer; J. E. W. Carey, Captain; Dr. Letcher, Sergeant-at-Arms.

A banquet was held in honor of the retiring officers and the thanks of the club members was heartily voted to the retiring President in particular, Mr. W. G. Collins, under whose leadership the club has prospered. A very enjoyable evening was spent and the new officers were started on their management of the club with the brightest prospects. The following were also elected to membership: C. C. Hopkins, William Bouldin.

A contest has been arranged between the members which has been attracting much attention. The club has been divided into equal sides, with Collins and Chelini heading the ranks. The side that gets the largest number of new members before March 1st is to have the benefit of a good dinner at the expense of the losing side. This contest has created more interest and excitement than anything which has been gotten up since the club was organized, and the membership gives promise of being greatly increased this coming season.

AN event of unusual interest to the motorcyclists of Boston was the dinner given by the Commonwealth Motorcycle Club at the Cafe Dreyfus, on January 14th, to celebrate the first anniversary of the formation of the club. The attendance was quite large, and among the guests were Francis Hertubis, Jr., counsel for the F. A. M.; Chester I. Campbell, manager of the Boston Automobile Show; George N. Holden and friends, of Springfield; Alonzo D. Peck, E. H. Corsen, George H. Graves, G. A. Ellsworth, and Theodore Rothe, all veterans of the old bicycle days, together with nearly all of the prominent members of the club.

Remarks were made by many present and letters were read from the President of the club, W. F. Mann, who was unable to be present, also from E. L. Ovington, President of the F. A. M., and George M. Hendee. Letters were also received from nearly every motorcycle manufacturer, extending to the club their good wishes for the future. The event was a perfect success, and its influence must be felt in the future affairs of Boston motorcycling. The newly elected officers of the club are: W. F. Mann, President; F. M. Wyman, Vice-President; G. A. Ellsworth, Secretary; E. H. Corson, Treasurer; Theodore Rathe, Captain; W. A. Griffing and C. R. Lincoln, Lieutenants.

WORCESTER, Mass., Jan. 13.—The Worcester Motorcycle Club, at a meeting last night, at the Warren, appointed a committee to look into the matter of getting clubrooms and report at the February meeting. These are on the committee: A. P. Knight, G. E. Hoyle and W. H. Tannebring. Members of the club have talked of having a cottage at the lake, where there could be canoes and billiard tables. If the club is not able to secure a place at the lake, it has been suggested that a site on some other pond be selected.

Members meet only once a month, and then it is only for a short while. If they had a clubroom they would be brought together more frequently and the interests of the club could be discussed. The club enjoyed a spread at the Warren before the meeting last night, and the advisability of an endurance run for motorcycles was discussed. Under the regulations of the F. A. M., the run would have to be 250 miles in one day. Some of the members think that distance too great, and advised a durability run. Such a contest could be for any distance under 250 miles.

The committee in charge of looking into the matter is E. R. Creamer, Captain Lincoln Holland and George F. Clark. They will report at the February meeting. Albert V. Armstrong joined the club last night.

THE club spirit has struck Grantwood, N. J. On January 9th the riders in the village organized, adopted a constitution and by-laws, and a name. Instead of following the usual method of naming a club after the town in which it is located, this organization will be known as The Merit Motorcycle Club, and thereby hangs a tale. The novel idea was conceived of selecting the initial letters of all the machines ridden by the eleven chartered members, and combining them into a name. It turned out that two riders were mounted on M. M. machines, one on an Excelsior, one on an R-S, three on Indians and four on Thors; and thus the name M-E-R-I-T was selected. Officers were elected as follows: President, Dr. G. O. Brewster; Vice-President, Aug. Neumann; Secretary and Treasurer, William J. Antzen; Captain, Charles Vogel; First Lieutenant, Joseph McAuley. Club colors were also adopted, viz, blue and gold. There are some thirty riders in the neighborhood of Grantwood, and the new club plans to conduct an active membership campaign to line them up. It is planned also to have the club secure an affiliated membership in the F. A. M. just as soon as it reaches the requisite fifteen membership.

IF You want to sell your machine advertise it in the MOTORCYCLE MART, Two Cents a Word.

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MORGAN & WRIGHT

There is no method of making friends

1908

¶ First Morgan & Wright motorcycle tires placed on the market.

¶ Made a big hit with motorcyclists from the first tires tried.

¶ Were given all the tests other tires were given in races, endurance runs, etc., and won immense favor from motorcyclists everywhere.

¶ Not a single defective casing has been returned.

¶ Unquestionably the most popular motorcycle tire on the market at the close of the season.

Morgan & Wright

DETROIT, MICH.

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MOTORCYCLE TIRES

equal to the method of making good

1909

¶Orders already booked show a big increase in both manufacturers' and dealers' business over 1908. (One manufacturer stated that the quality of Morgan & Wright tires had practically compelled him to equip his 1909 output with them—or most of it.)

¶Our 1909 tires will be as much better than the 1908 tires as our added experience can make them.

¶Reports from all parts of the country indicate that motorcyclists are "wise" to these tires and will make 1909 a distinctly Morgan & Wright year in the motorcycle field.

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THE CHICAGO SHOW

THE National Show of 1909, to be held at Chicago, February 6th to 13th, will, as usual occupy the Coliseum and First Regiment Armory. The Show will be no larger and no smaller than the last, because the limits of the building from basement to roof have already been reached; but the number of exhibitors will be somewhat increased by reason of a rearrangement of the center floor of the Coliseum, which has been divided into twenty-four spaces instead of twenty, as heretofore. The exact number of motor car exhibits so far is ninety-two, and there seems to be no prospect of an increase, since there has been no available space since the first allotment on October 1st—an unfortunate condition so far as several manufacturers are concerned, inasmuch as not less than fifteen makers of pleasure cars, and nearly as many of commercial vehicles, have of necessity, been denied admission. The management made an unsuccessful effort to secure the furniture building on the corner below the Coliseum, to take care of the overflow. It would have made a show comparable with those of ten years ago, for the number of applications from accessories makers runs about fifty. Tattersall's, where the Commercial Show was held last year, was considered and abandoned as being too far away and in too poor condition. Strenuous efforts have been made by such concerns as the Electric Vehicle Company, Royal Motor Car Company, International Harvester Company and Palmer & Singer to remedy the error of omission to apply in time.

The decorative scheme of the Chicago Show will be as elaborate as usual and of somewhat similar character to that of last season, but with the addition of certain features which are expected to eclipse anything heretofore attempted. This will probably be the last show—at any rate for a time—decorated in this style, for plans for 1910 of an entirely different character are already under consideration; indeed some of its features will, for experimental purposes, be introduced this season. The last Chicago Show furnished the greatest demonstration of the possibilities of papier-mache work ever attempted at an exhibition or elsewhere. Its success justified its use on a large scale this year, and of this material, supplemented by staff, many of the central features will be made. But its appearance will be totally different. It will be a show in copper, bronze, or old gold, to suit the pleasure of the spectator.

The building will be divided into four groups, of equal size, with aisles in the form of a cross. Down the center of each group, dividing it into long rows, will be massive pillars, bearing aloft, at heights ranging from nine to fifteen feet, representations of bronze statuary, all designed and made for the occasion and all bearing the imprint of automobiling—sport, utility, and commerce combined. The two ends will present racing seasons. But the principal feature will be at the center of each group. At a height of fifteen feet will be a massive wheel, six feet in diameter, and below it the figure of a man of heroic size, depicted in the act of giving it impetus. Stretching to the right and left will be an arch, curved outwardly at its ends, made up of two pictures of automobile scenes and two circular and two oblong stained glass windows, the remainder backed with green silk and golden trimming.

Along the top of the section, above a red silk background, on which will be white and gold raised letters, runs a white flower box, filled, to a height of two feet, with real ferns and flowers. The same general effect will be carried out in all parts of the building. Some of the walls or roof will be visible—all will be paneled. From the ground up to a height of ten feet will be wooden panels, of mission style and thence, to the front of the gallery, will be panels of lighter design, probably in light green and white. The entire roof will be similarly treated.

To electric lighting more than the usual attention will be given. That the building will be brilliantly illuminated is shown by the fact that no less than sixty-four flaming arcs are to be used, in addition to the regular lighting equipment and smaller decorative effects, such as 250 twelve-inch globes and a great number of smaller incandescent lights.

The growth of interest in the motorcycle, backed by the request of an organization of motorcycle manufacturers, led the management of the Chicago Show to make provision for a special motorcycle department. This will be located on the second floor of the Coliseum Annex, and will contain forty spaces. There will be twenty-one exhibits. Great stress is laid by the management of the Madison Square Garden Show on the statement that theirs will be the first and only complete exhibit of motorcycles. A comparison of the lists shows that the motorcycle show at New York is incomplete, at least in so far as it relates to at least five important concerns, namely, Wagner Motorcycle Company, Magnet Motor Company, Minneapolis Motorcycle Company, Hornecker Motor Manufacturing Company, and Armac Motor Company.

The revised list of exhibitors as announced by Manager S. A. Miles contains the names of ninety-four automobile manufacturers, nineteen motorcycle makers, and 137 accessory firms. The total number of exhibitors to date is 250. While only ninety manufacturers of pleasure automobiles were accommodated last year, ninety-four are given space at the coming exhibition. These exhibitors for the most part will occupy the main floor of the Coliseum, the Annex and the First Regiment Armory.

The Chicago Show is held under the auspices of the National Association of Automobile Manufacturers, and is the only national exhibition from the fact that no discrimination is made as to the exhibitors. Members of all associations are welcome, and it is the only big exhibition at which the members of the Association of Licensed Automobile Manufacturers and the American Motor Car Manufacturers' Association exhibit under the same roof.

Because of the fact that no discrimination is shown, the Chicago exhibition always attracts a larger number of exhibitors than any other show. Although held after the two New York shows, many agents throughout the country come to Chicago to visit the local exhibition, with a view to closing their contracts for the year and to inspect the new 1909 models.

The exclusive motorcycle section, located in the Coliseum Annex, on the second floor, is as follows:

Minneapolis Motorcycle Company, Minneapolis, Minn.; The Pierce Cycle Company, Buffalo, N. Y.; Merkel-Light Motor Company, Pottstown, Pa.; Reading-Standard Company, Reading, Pa.; Hornecker Motor Manufacturing Company, Geneseo, Ill.; Armac Motor Company, Chicago; New Era Gas Engine Company, Dayton, Ohio; Magnet Motor Company, Chicago; Hendee Manufacturing Company, Springfield, Mass.; Harley-Davidson Motor Company, Chicago; American Motor Company, Brockton, Mass.; Excelsior Motor and Manufacturing Company, Chicago; N. S. U. Motor Company, New York; Wagner Motorcycle Company, St. Paul, Minn.; Consolidated Manufacturing Company, Toledo, Ohio; Ovington Motor Company, New York; Aurora Automatic Machinery Company, Aurora, Ill.; Thiem Manufacturing Company, Minneapolis, Minn.; The Auto-Bi Company, Buffalo, N. Y.

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MOTORCYCLE ILLUSTRATED

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F. P. PRIAL

LEROY COOK - - - - - - - *Editor*
L. H. CORNISH - - - - - *Advertising*

Indianapolis Bids for the F. A. M. Meet

DURING show week Indianapolis visitors agitated the F. A. M. 1909 meet question, and several of them called around at the booths in the motorcycle section to convince the doubting Thomases that their city cannot only furnish the necessary entertainment and accommodations for the meet, but that it really wants it there. It was pointed out that Indianapolis has a number of splendid hotels where any number of guests can be accommodated, that it is the center of a circle of one hundred and fifty miles that include the following cities: Cleveland, Columbus, Dayton, Cincinnati, Detroit, St. Louis, Peoria, Chicago and Kansas City.

Then, too, it is proposed to have a five-mile speedway in readiness by next June, over which the very fastest machines can be driven to the limit of their speed in a 150 or 200 mile race. Behind this venture, rumors of which have from time to time drifted East, is Carl Fisher, the well known automobile man. Even if this five mile speedway should not materialize in time there is the mile track at Indianapolis, over which some very fast time was made last fall. This could be whipped into shape in a few days' time and would, no doubt, prove as fast as any of the other dirt tracks in the country, for the turns are easy and the track is broad.

Two of the active Indianapolis workers were Messrs. Hamilton and Githens, of the G & J Tire Company. They are loud in their praises of Indianapolis, and their arguments were convincing. It will be a very hard proposition for any section of the country to get the 1909 meet away from the Indianapolis contingent. As Chicago is the *only* other city that has made any strong bid for the meet, it is pretty safe to say that it will go to Indianapolis unless some other section comes forward very strongly. It is the consensus of opinion that a very large city should never again have the annual F. A. M. gathering within its gates. In New York last year the few F. A. M. members who gathered at the Empire were simply swallowed up in the millions of people in the greater city, and it is felt that at Chicago the result will be very much the same. Even if a record attendance of several hundred members could be gathered, they would hardly make a dent in the Chicago atmosphere.

MOTORCYCLEDOM throughout the country is congratulating itself upon the remarkable success of the exhibition, held in connection with the automobile show in Madison Square Garden last week. The motorcycle exhibit was not only bigger than had been anticipated, but it was also far more interesting and decidedly more profitable than the most optimistic among the craft had expected. In fact, the show marked the formal entrance of the motorcycle into the purview of popular favor, serving wonderfully to overcome, in the minds of thousands, prejudices which had been developing in intensity ever since the motorcycle succeeded the wheeled machine whose only motive power was human muscle.

It is now possible to state without peradventure of doubt that the motorcycle is more generally known, not as a nuisance or a toy, but as a practical means of healthful recreation, with every degree of assurance that it will soon become a commercial necessity. The motorcycle fraternity has recognized these two conditions for some time; not so, however, the public at large, whose attitude was one of suspicion to the point of hostility. Even though there are still hundreds of thousands who look down upon the motorcycle and the motorcyclist from the old point of view, it is certain that the passage of the current year will witness a remarkable change of public opinion, in so far as it affects the motorcyclist, and that much of this change will be traced directly to the effect of the Madison Square Show.

The state of public opinion has been, and it is today, the most important and also the most difficult problem confronting the trade. From a technical standpoint, the year 1908 was all that could have been desired, and there is every reason for believing that 1909 will be even more productive of striking and popular improvements. In fact, this matter is one of less concern than that of proving to non-motorcyclists that the man who rides one of these machines is as a rule a very decent sort of chap, and just as anxious as any one else to co-operate to the best of his ability to show that the motorcycle is a not at all obnoxious vehicle. The show served this purpose admirably, and, at least so far as New York and its suburbs are concerned, the motorcycle sentiment of the general public has undergone a most gratifying transformation.

Rough on Second Story Men

DALLAS, Texas.—It is estimated that with motorcycles of the sort that will make twenty-five miles an hour or better, any burglar call in the city can be answered by men on these wheels within ten minutes at the outside. It means, further, that in a shorter radius the calls may be answered in from one to five minutes.

"With such implements in the hands of the police, there ought to be a feeling of security in every home in the city," Chief Brandenburg says. "No woman need be disturbed when she thinks she hears a burglar at the window or in the dining room. She has only to telephone to the station and the men on wheels will appear before a man could get out of the house.

"There will not be the beating of the horses's hoofs to warn the marauder nor the delay of hitching up and of stopping to tie at the gate. While these things are going on a burglar and his swag might be far away. But with the motorcycles such as the city is to have and the short practice for the mounted men to use them, every part of the city will be in prompt touch with the police station. It is almost safe to say that the telephoning will take half of the time that will be required for information and for answering."

Commissioner Seay is delighted at the prospect of the machines and believes it will mean a diminution in burglaries and in holdups.

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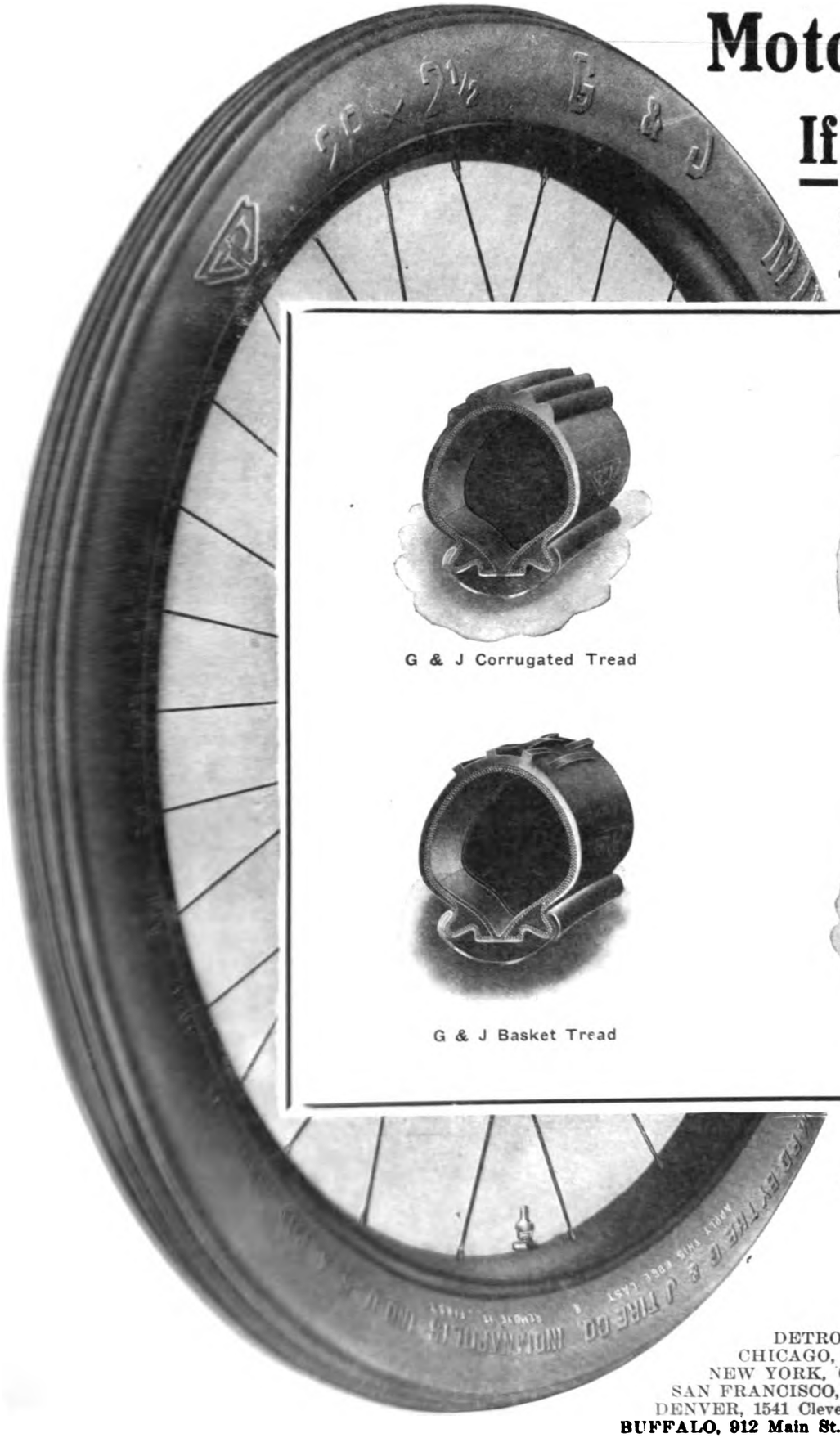

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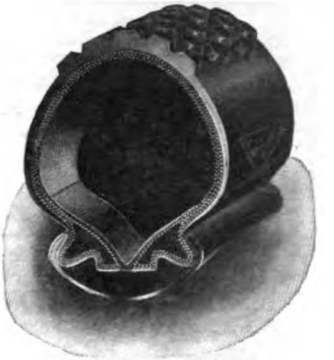

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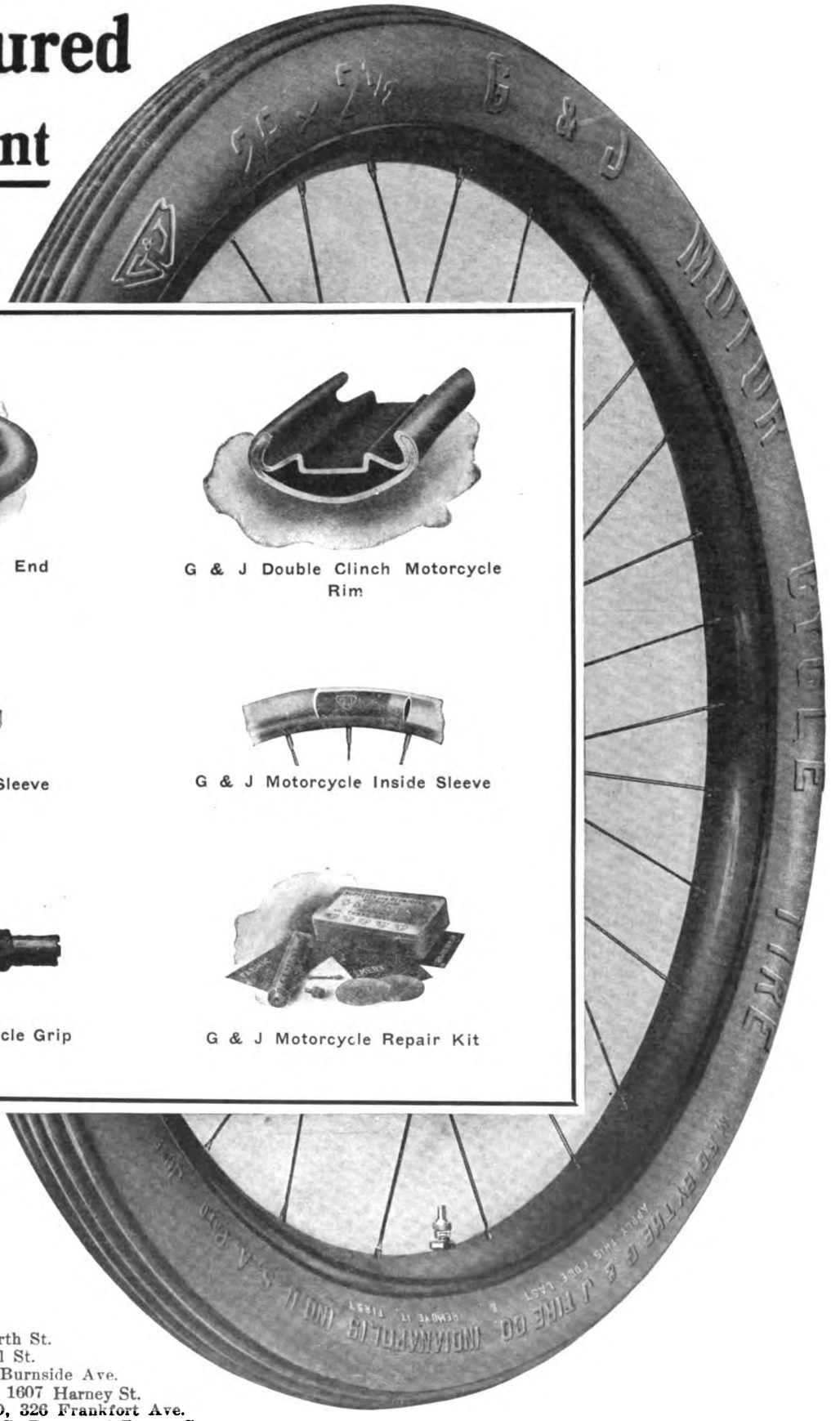

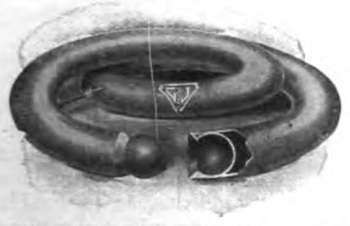

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Held an Independent Show

DURING the week of the Madison Square Garden Show the Emblem Manufacturing Company, of Angola, N. Y., conducted an independent exhibit at the Hotel Victoria, in New York City, where they showed their new Emblem motorcycle. This machine has several features worthy of serious consideration in its make-up, notably the reinforced tubing used in the frame construction. Many of the visitors at the Garden called at the hotel to inspect the newcomer during the week.

Triple triangular reinforced tubing is the distinctive feature of the low loop frame machine manufactured by the Emblem Company. It is claimed by the originators of this innovation that the insertion of these reinforcements makes the frame as strong as a solid bar of the same diameter. Since the frame is braced from three points, twisting is practically impossible. In addition to its triple reinforcement, the new Emblem frame is of a low and comfortable design, allowing the use of twenty-eight-inch wheels and bringing the top tube to within twenty-nine inches of the ground, thus giving the rider a decidedly comfortable riding position.

Quite as convenient as the Emblem rider's sitting posture is the patent grip control, combined with long handle bars, twenty-three inches in width, and made from one inch, fourteen gauge tubing. The use of a sliding bar, with a knuckle joint at each end, does away with the need of changing the controlling mechanism when steering. Another feature is the position of the coil and battery case, which is placed on the top bar just in front of the saddle, an arrangement which permits of inspection and even removal of the coil and batteries without dismounting. Transmission is by a V belt, made of waterproof leather, having between each ply special linen fabric, so arranged as to eliminate stretching or breakage of the belt.

To Exhibit at Denver

AN unexpected and pleasing angle has developed in the Denver automobile show situation at the auditorium, February 16 to 18. This is the unanimous support given by the motorcycle dealers of Denver. Every dealer in the city has applied for a liberal amount of space, and as a result the show committee has set aside an entire section at the Champa street end of the building for the motorcycle exhibit.

The motorcycle business has made remarkable progress in Denver during the past year, and the eight dealers here are most sanguine over the prospects for the coming year.

There will be twelve or more makes of motorcycles exhibited at the show. The Mead Autocycle Company will have the Excelsior, the Boot Motorcycle Company, Torpedo and Thiem; Hathaway Motor Company, Indian; Brown & Beck, Apache and Racycle; Tom Botterill, Pierce and Harley-Davidson; F. H. Williams, N. S. U. and Thor; Walter Whiting, Wagner; Starbird Motorcycle Company, Minneapolis Two-Speed.

LOS ANGELES, Jan. 25.—Motorcycle races are to be held under the auspices of the Los Angeles Motorcycle Club on Ascot Park track, February 21 and 22, if the track can be secured for those dates. A committee was appointed at the regular meeting of the club last night to see the owners of the track and arrange for its use and for putting it in such condition as to enable the fast local riders to make mile-a-minute miles. In view of the fact that this will be the first regular club meet on the track and of the further fact that many of the 1909 models are guaranteed by the factories to turn a mile in less than sixty seconds, the riders are enthusiastic over the prospects of the races. Many new machines will be entered, and it is a safe guess that old records will be shattered.

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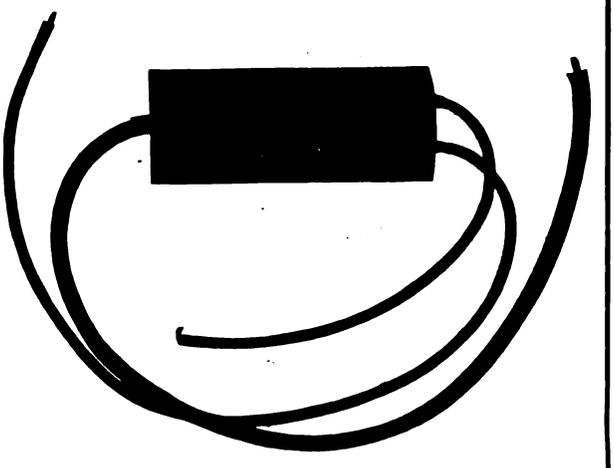

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THE N. S. U. Motor Company, of Necker-Sulm, Germany, is the first foreign manufacturer to become a member of the Motorcycle Manufacturers' Association. This company was admitted at a meeting on Tuesday, January 19, held at the Hotel Breslin, in New York. During the course of the session the action of a manufacturer, who filed with the Congressional Ways and Means Committee a protest against any reduction of the tariff on motorcycles, was unfavorably criticized. The manufacturer in question had acted upon his own responsibility, and afterwards refused to offer the slightest explanation. Inasmuch as it was then too late to accomplish anything, the matter was dropped, not however without some illuminating discussions over the matter. When it became apparent that there was a possibility of a reduction in the 45 per cent. duty that is now imposed on imported motorcycles the maker referred to made his request to the committee. It was, substantially, that the tariff be maintained and that motorcycles should be classed with automobiles.

It should be noted that the automobile manufacturers' associations appointed a committee, which attended several of the Congressional sessions in Washington and presented their side of the question in a very lucid manner. In fact, it is almost a certainty that there will be no change in the tariff on automobiles. At the same time, any great amount of concern over a reduction of the duty on motorcycles and parts is out of place. As long as they are classed as bicycles there is hardly the remotest possibility of any change being made. But to put them in the automobile class would be to court danger, not on the tariff question, but from state legislation. The F. A. M. and the M. M. A. both contend that motorcycles should be classed as bicycles, and thus be freed from the necessity of registering with, or securing licenses from, each separate state. This happy state of affairs does now exist in some states, New York for instance. But class motorcycles with automobiles, however, on the tariff question, and every state in the Union would feel called upon to require automobile registration fees, etc., and to subject every motorcyclist to the conditions of its automobile laws. The manufacturers, of whom eleven were in attendance, threshed the matter out very thoroughly. It was also decided that only bona fide motorcycle makers are eligible to the association. This bars any importers who might apply for membership.

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FOR SALE—N. S. U. 6-h. twin; new August 26, 1908, ridden from Denver to Kansas City only; two-speed gear, extended handlebars, Brooks saddle, spring forks, new belt never used, tires show very little wear, machine cannot be told from new; it is in absolutely first class condition throughout; two extra spark plugs, one extra tool bag, one tourist carrying case, one extra Bowden wire for exhaust lift, one extra exhaust valve complete, cyclometer, Columbia headlight with generator; full set of tools and tire repair kit; first check $225 takes it. Will pay transportation charges. Am buying automobile. H. T. LaBonte, R. F. D. No. 4, Arcadia, Kansas.

1908 M. M. Special with extra parts, $140; have rheumatism, need money. H. J. Blickensderfer, Shanesville, O., Route 1.

WANTED 1908 or 1909 Orient Buckboard and M. M. Motorcycle 1908 Model; have in exchange one 1907 Yall Motorcycle, one M. M. 1907, one Columbia B Model, all machines in good running order; will sell for cash at a bargain; write for prices. A. A. Jordan, 264 Tompkins street, Athens, Ga.

1907 WAGNER, $90; in excellent condition, with tandem attachment, stand, cyclometer, etc. B. L. Kemper, Perham, Minn.

FOR SALE—1907 Merkel, 3-h.; just been overhauled in actory; new rear tire, and machine good as new; price $120. G. W. Moeller, Worthington, Minn.

M-M twin, nearly new, $150; write for particulars. Herbert Lobdell, Coldwater, Mich., R. F. D. No. 2.

RELINQUISHMENT of 120 acres for trade for good motorcycle. Randolph Davis, Towner, Colo.

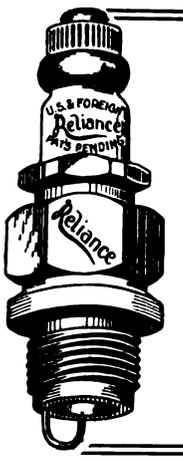
FOR SALE—1908 N. S. U.; practically new, run less than 600 miles, fitted with spring forks and two-speed gear; cost $375. $225 will buy. Address H. H. Ganson, 50 Vermont street, Buffalo, N. Y.

1908 M-M, single, 2¼ tires, carrier, stand, tandem attachment, run 300 miles, perfect and guaranteed. Getting auto. Sell cheap. Taggart & Son, White City, Kansas.

WANTED a thoroughly competent, practical expert gunsmith bicycle, motorcycle and all-round general repair man. Address Mobile Bicycle Co., Mobile, Ala.

FOR SALE—Two (2) new Harley-Davidson motorcycles, 1908 models; moving west to take up a homestead; send stamp for aprticulars. Address A. B. C, care MOTORCYCLE ILLUSTRATED.

FOR SALE—A 1906 Indian tricar in good condition; two lamps, large generator with brackets, storm hood; price $100. W. I. Abbott, Troy, N. Y.



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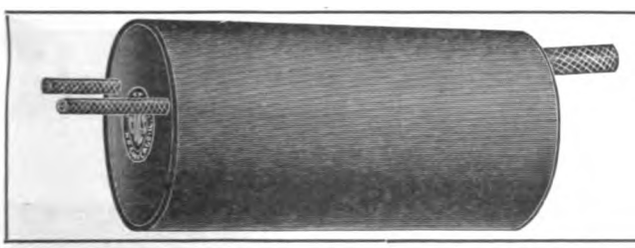

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A SERIES of lectures will be held during the next few weeks at Huber's Casino, 162d street and Jerome avenue, New York City, by the Concourse Motorcycle Club. The first of these will take place on February 2d, when M. E. Toepel, the well known New York motorcyclist, and one of the Splitdorf ignition specialists, will deliver a lecture on the magneto. On this occasion the dates of subsequent lectures will be announced, which will consist of discussions on storage and dry batteries, carbureters, etc. This club has grown quite rapidly, and now numbers about thirty-five members in good standing. It has determined to apply for affiliated F. A. M. membership, and the application was put in recently. The present officers of the club are: President, J. M. Holcomb; Vice-President, Charles A. Busch; Secretary and Treasurer, Fred Larsen; Captain and Recording Secretary, M. P. Sullivan; First Lieutenant, Charles W. Busch; Second Lieutenant, Benjamin Lott.

TWENTY-TWO motorcycle enthusiasts met recently in Fresno, Cal., for the purpose of banding themselves into a motorcycle club to be known as the Fresno Motorcycle Club. Officers were elected as follows: William Mitchell, President; Ray Falkenstein, Secretary. The club decided to oppose certain features of the proposed city ordinance, although it favored the intended requirements for lamps, horns or bells, for regulating speed and the use of mufflers.

THE Syracuse (N. Y.) Motorcycle Club held its second January meeting on Wednesday evening, January 20, at the Vanderbilt Hotel. The election of three directors and a report of the Committee on Colors and Club Rooms were deferred until the next meeting, to be held Wednesday evening, February 3. In the meantime each member of the club will seek a permanent headquarters for the organization. The club now has a membership of thirty-nine with prospects of increasing the number to at least sixty. The members are eagerly looking forward to the opening of the riding season, and, with the good roads improvements that have been accomplished during the past year, there are bright prospects for some good runs as soon as the dry weather comes.

AT a meeting of local motorcycle riders, held at the salesroom of the Bumiller-Remelin Company, on January 12th, the first motorcycle club in Cincinnati was organized, with the following officers: President, Fred Sparrow; Secretary and Treasurer, John Austin; Captain, Olin Ross; Lieutenant, William Voris. The new club will be affiliated with the Federation of American Motorcyclists. Captain Ross has already mapped out several interesting tours for the coming season, also a number of club championships for hill climbs, endurance tests, etc. All motorcyclists in Cincinnati are invited to join, and application should be made to John Austin, Secretary, 432 Main street.

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OUR 1909 CATALOG

comprises the results of our long experience. We've sifted the wheat from the chaff—the catch-pennies from the "real things." and have listed every genuinely useful article for which the motorcyclist has need.

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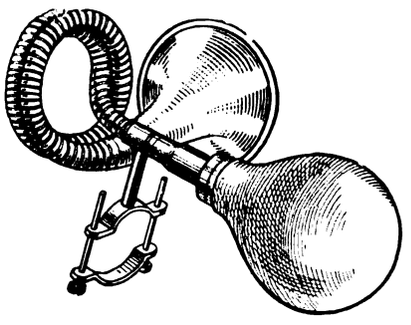

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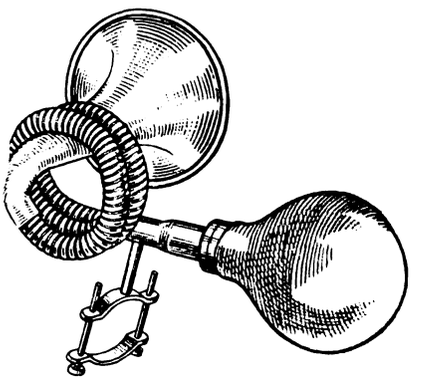

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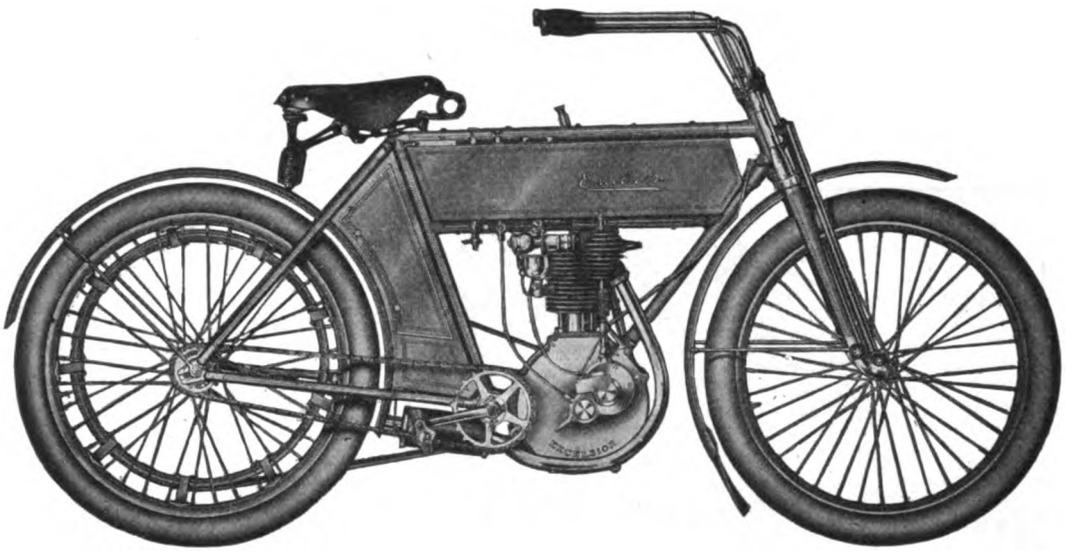

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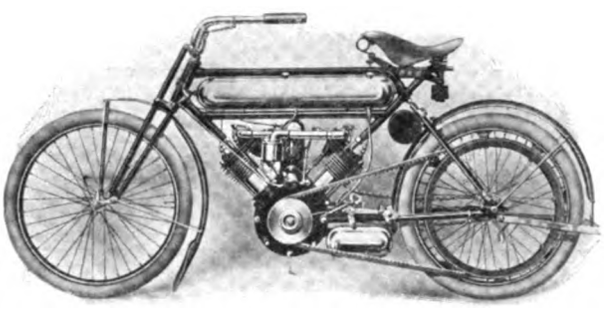
What - The - Horseless - Age - Says

Motorcycle Construction as seen at the Madison Square Garden Show

The number of double cylinder engines has increased, in response to a demand for greater power, but, strange to say, very little attention has been paid to the subject of proper balance. Many makers of single cylinder engines make the absurd claim that they have perfectly balanced their engines. Only two American makers have given this subject any serious attention. The new Pierce four cylinder has, of course, a good balance, but in the case of the M. M. 90 degree twin a double cylinder engine has been produced with a better balance than a four cylinder. The placing of the cylinders in this type of engine at 42, 45 or 50 degrees produces an engine as poorly balanced as a single cylinder of the same power.



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Eclipse Machine Co.,
Elmira, N. Y.

Hammondsport, N. Y., Jan. 2, '09.

Gentlemen—We are pleased to report the results of our recent tests of the new Eclipse Coaster Brake as most satisfactory; in fact, we were surprised at the amount of punishment this brake stood.

We put it through a course of stunts which would put any brake "out of business," and this we have proven in subsequent tests of other makes. Our first tests were made on what is known as "Bully Hill." This is the steepest road in this vicinity; it makes a rise of 800 feet in half a mile.

Our tester spent nearly a day riding one of our big double cylinder machines up this hill and coasting down. There was no trouble in holding the rear wheel at any time, and the long, hard test seemed to have no bad effects on the brake.

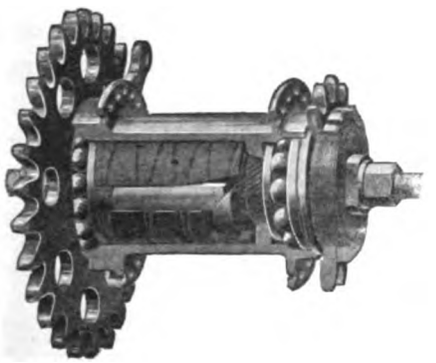
All other brakes we had tried could be destroyed by such continued hard usage, so we decided to finish it up by running the engine down the hill and holding it by the brake.

This, however, failed to put it out of business and we were obliged to resort to running the engine in the stand with the brake constantly applied as load before we could burn it up.

There has been an urgent need of a good coaster brake for motorcycles and we are more than pleased to report that this one meets all of our requirements and you can count on our using it exclusively the coming season.

Yours very truly,
G. H. CURTISS MFG. CO.
per G. H. Curtiss.

CHC—5



The Eclipse Motorcycle Coaster Brake is not a Bicycle Coaster Brake made heavier for Motorcycle use. It is correctly designed for use on Motorcycles, especially adapted with Eclipse Ball Retainers which permit of a full row of ⅜-inch balls, ensuring perfection in coasting. The largest braking surface ever used. Only eight parts. No small or delicate parts to get out of order. Guaranteed for use and abuse.

Eclipse Machine Company, Elmira, N.Y.

Licensed Coaster Brake Manufacturers

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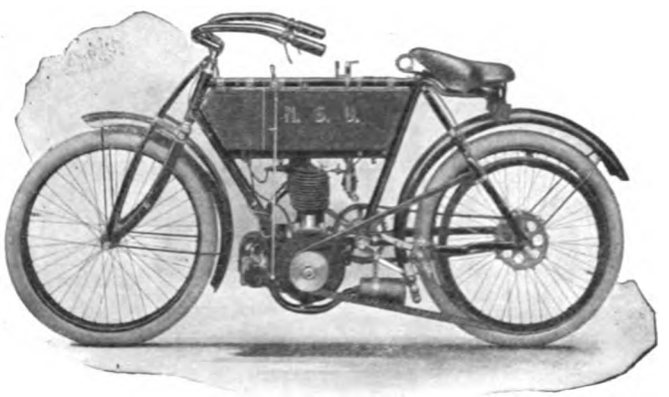
NSU FOR 1909

THE MERCEDES OF MOTORCYCLES



The F. A. M. Endurance Model

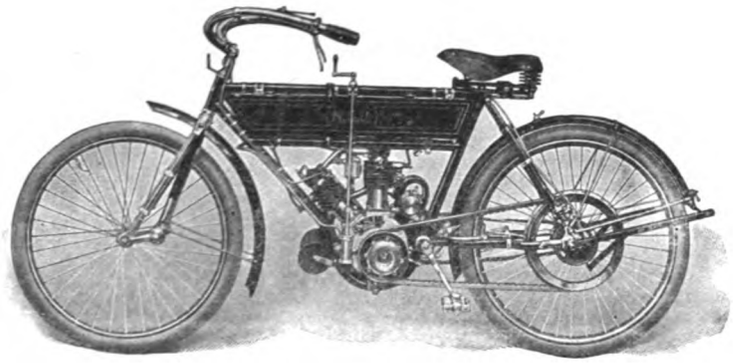
All that could be desired in a motorcycle is evident in these models.

Light, Fast and Reliable

A motorcycle that is bound to please the most exacting buyer.

SPECIFICATIONS.—Low frame, drop saddle bar, 25 in. wheels, 2¼ Peter Union tires, distance from ground to top of saddle about 33 inches; wheel base 51 inches. Shock absorbing saddle, highest grade. Tank capacity, 1½ gallons gasolene, 1 quart oil. Exhaust lift by Bowden wire from handle bar; switch grip; extra wide mud guards; S. G. belt; girder forks; two brakes; full set of tools and extras. ***Magneto Ignition*** on all models. Handle bar control as an option, extra.

3 H.P. Single Cylinder, 75x75 m/m., weight 135 lbs.
3½ H.P. Single Cylinder, 80x80 m/m., weight 145 lbs.
3¾ H.P., Single Cylinder, 82x86 m/m., weight 155 lbs.
6 H.P. Twin Cylinder, 75x90 m/m., weight 170 lbs.



The 3 H.P. Twin Roadster

The most complete motorcycle ever placed on the market; not a detail has been forgotten and quality is evident everywhere.

SPECIFICATIONS.—3 H.P. Twin cylinder engine, 52x74 m/m., mechanical operated inlet valves, gear driven H. T. Bosch magneto. New pattern carburetter with handle bar control. Low frame. Distance from top of saddle to ground about 30 inches, wheel base 52 inches. Spring forks. Internal expansion brake, also rim brake to rear wheel. Tubular stand and carrier. ¾ inch V belt, geared pulley, and belt tension regulated from saddle. Extra wide mud guards, removable pattern, on back wheel. 26x2 in. Peter Union tires. Tank capacity, over a gallon of gasolene and 1 quart oil. Weight about 110 lbs. Ready for the road in all respects.

3 H.P. Twin Cylinder, 52x74 m/m.

Never before have the public so decided that N. S. U. quality superseeded anything heretofore produced in the motorcycle field. We proved at the New York Show that We Originate, others copy, but they never can equal. 1909 advance sheet ready. Agents should write for territory while it is open.

N. S. U. MOTOR CO., 206 WEST 76th ST., NEW YORK CITY

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THE NEW GOODRICH

Ribbed Tread Motorcycle Tire

Marks the beginning of a new era for motorcycle users.
It departs entirely from the makeshift bicycle tire type which never gave satisfaction to motorcyclists—and never will—and offers instead the MOLDED FORM OF CONSTRUCTION, and this form of construction means nothing less than—BUILT LIKE AN AUTOMOBILE TIRE. Right here it is only fair to you and ourselves to state that the Goodrich 1909 Ribbed Tread Tire is the only motorcycle tire constructed along the same lines as the best automobile tires. A construction that gives the greatest strength and at the same time is not of a heavy cumbersome nature which kills resiliency.

HARD TO WEAR OUT
EASY TO RIDE ON

The B. F. Goodrich Company, Akron, Ohio

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PHILADELPHIA, 1332 Arch St.
CLEVELAND, 2188 9th St., S. E.
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KANSAS CITY, 1728 Grand Ave.
BOSTON, 161 Columbus Ave.
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Our products are also handled in

NEW YORK, 66-68 Reade St. BUFFALO, 731 Main St.

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THE B. F. GOODRICH COMPANY OF NEW YORK

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Standard Speedometers

FOR MOTORCYCLES

The new **Standard** motorcycle speedometer is the finest instrument that it is possible to make for the purpose. It is the result of two years' experimental work and testing. It is mechanically RIGHT. This cut shows the large, clear, evenly graduated scale.

The construction of the governor allows a very fine adjustment, and we will guarantee what no other maker has accomplished—that the **Standard** does not vary more than one-quarter of a mile at any point on the scale from the absolute speed at which it is running.

3 INCH 60 MILE
COMPLETE WITH SHAFT AND FITTINGS
$15.00

The most important point of all is the steadiness with with which the **Standard** operates, and we know beyond question that there is nothing else made that can compete with it on this point. The arrangement of the governor makes it impossible for either the road vibration or that of the motor itself to affect the pointer, and even while running over paving stones you can tell within a fraction of a mile the exact speed you are traveling. It has required a great amount of experimenting to accomplish this, but we consider the time well spent, as this has been the chief objection to other speedometers in the past.

Showing position of the instrument on handle bars from the rider's point of view.

The method of gearing is also one of our special features. The pinion has twelve teeth and the driving gear which attaches to the spokes of the wheel has the same number of teeth as the diameter of the wheel is in inches, so that a 26-inch wheel takes a 26-tooth gear, and a 28-inch wheel requires a 28-tooth gear. This is the only correct method of getting the exact ratios for different sizes of wheels and is original with us.

Write for our Motorcycle Catalogue and Prices

PARKER MFG. CO., Clifton Street, BOSTON, MASS.

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More Evidence of the Drift Toward

Mesinger Motorcycle Saddles

THE ONLY SADDLES PROVIDED WITH

SHOCK ABSORBERS

WAS VISIBLE AT THE NEW YORK SHOW

Number of Saddles on Motorcycles Exhibited:

Mesinger Cavalry	26
Mesinger Standard	10
Total	36
Nearest competitor	19
Next competitor	17
Total	36

Do not fail to investigate our new Spring System with Shock Absorbers

Do not buy a motorcycle if you cannot have the best saddle. There is a little difference in the price, but a large difference in comfort.

The Mesinger Motorcycle Saddles have the correct shape for motorcycle use.

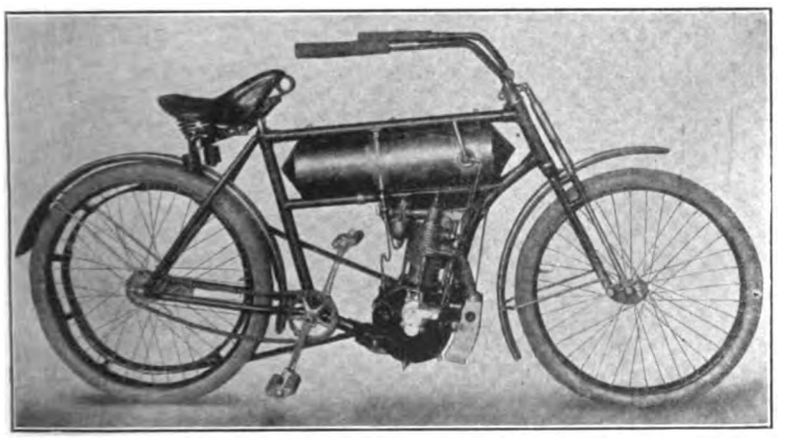
The Mesinger Cavalry Saddle is made like a horse saddle—it prevents you from slipping and avoids that crampish hold of the hands on the handlebars

Ask for our new Illustrated Catalogue.

H. F. MESINGER MFG. COMPANY, 1801-1803 First Ave., New York

THE CROUCH MOTORCYCLE

—The Motorcycle Built to Withstand the Hard Knocks—



is the one that will continue to appeal to the man who seeks sterling worth instead of "fads and frills." With **Double Bar Frame, Large Torpedo Tank, New Grip Control, New Belt Tightener,** affording free engine effect, and other new features it has been brought thoroughly up to date, and with no sacrifice of the great strength which entitles it to be called

"The Samson of Motorcycles"

WRITE US FOR PARTICULARS

CROUCH MOTOR COMPANY, Stoneham, Mass.

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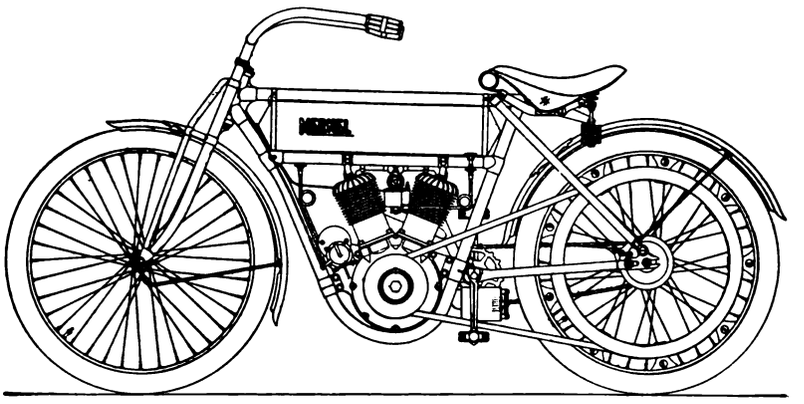
A WINNING COMBINATION

MERKEL BELT DRIVE 09 LIGHT CHAIN DRIVE

POWER



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Five Models—with more original and advanced ideas in construction and more exclusive features than ever offered by any manufacturer.

PLEASINGLY PERFECT—PERFECTLY PLEASING

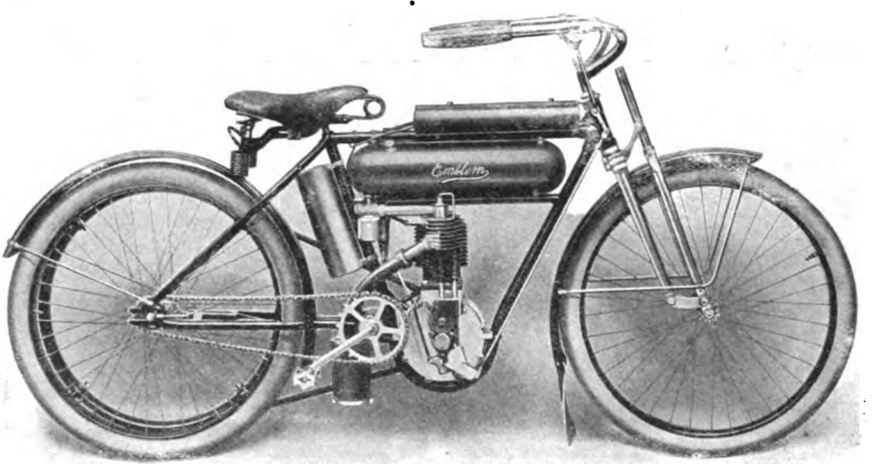
We can talk to the point with some more live dealers.

Merkel-Light Motor Company, Pottstown, Penna.

A Few Good Agents Wanted to Sell the

SENSATION OF 1909 SEASON

3½ H.P.
$175.00



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EMBLEM MOTORCYCLES

Manufactured by

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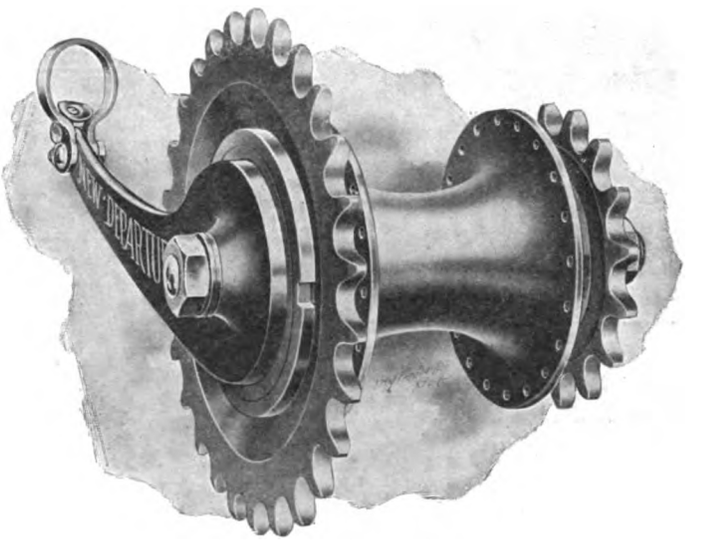
NEW DEPARTURE COASTER BRAKE

For Motorcycles



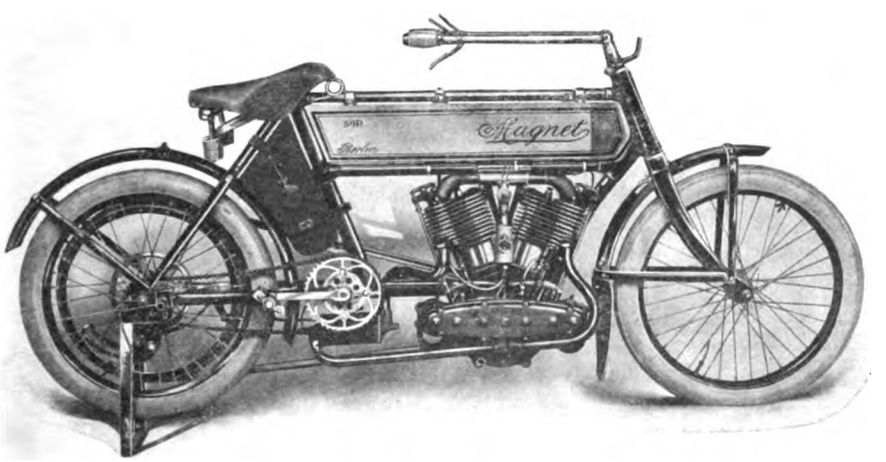
Model BB for Chain Drive

The 1909 New Departure Coaster Brake for chain and Belt drive motorcycles will interest all who are looking for a strong and reliable coasting and braking device. Fully guaranteed.

The New Departure Manufacturing Co., Bristol, Conn.

Coaster Brake Licensors

Just a Minute, Please—Yes, You!



We know your time is limited, so is our space. Therefore we'll have our say in a few words.

We manufacture motorcycles, so do many others, but not as well nor as long as we do. Experts admit that our machines are at the top of perfection.

Others say that also, but they cannot prove it. We can; our guarantee of one year, covering machine as well as magneto, does it.

We have devoted the proper space to all details of our machine in the

MAGNET SPECIAL TWIN 5½ H-P

'09 Catalogue of the Magnet Special

Have you got it? No? What's your address? ? ?

Watch this space closely. We will show the main features and different parts of the Magnet Special in the following issues.

MAGNET MOTOR COMPANY, 302 Michigan Avenue, Chicago, Ill.

"WE EXHIBIT AT THE CHICAGO SHOW, SPACE 102."

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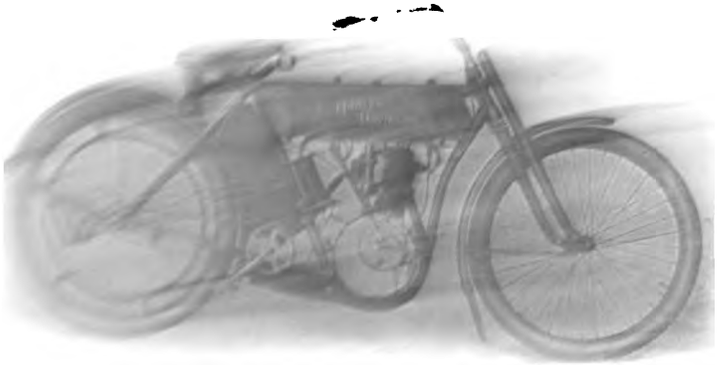

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No Diagrams

AND

Few Words

TO PROVE THAT THE

HARLEY-DAVIDSON

... all "sit up and get busy." It is the direct cause of ... other brands of motorcycles, but, despite the fact, in ... Davidson will be as far ahead as ever. It will set the pace, as usual.

THERE IS NO MORE DESIRABLE AGENCY TO BE OBTAINED WHERE WE ARE NOT REPRESENTED IN YOUR TERRITORY WRITE US

Harley-Davidson Motor Co., Milwaukee, Wis.

IF YOU WOULD banish all the tire worries from your mind---specify

KOKOMO

GRIDIRON TREAD MOTORCYCLE tires when you place your order for a new mount

THE EXPERIENCE GAINED IN FOURTEEN ... OF TIRE MAKING IS INCORPORATED in ... Tires for motorcycle use. Drop ... we shall be pleased to mail you our ... Kokomo tires will be the equipment on some ... and why they should be your choice.

THE KOKOMO RUBBER COMPANY

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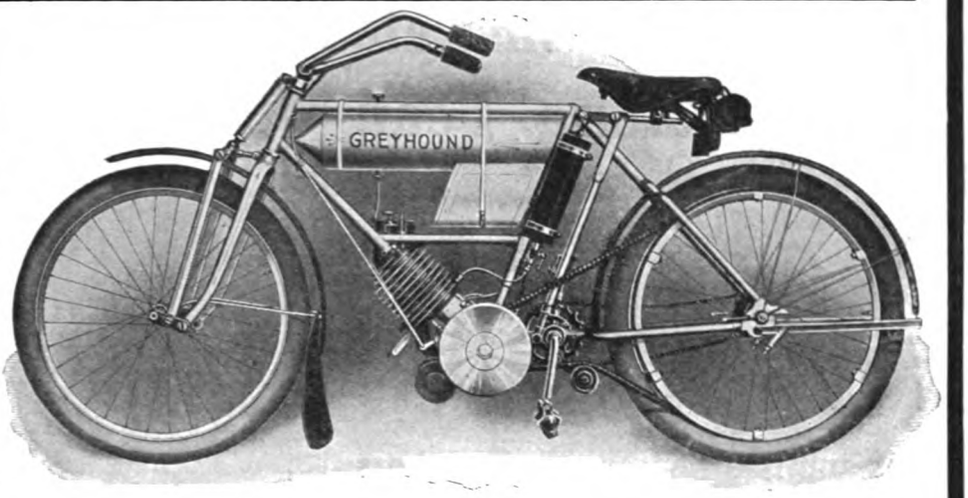
This is the GREYHOUND MOTORCYCLE

It is strong, swift, reliable, well-designed, and beyond a doubt the most comfortable machine to ride, principally on account of the use of the **Greyhound Shock Absorber.**

See it and you will understand why.

The motor—full 3 horse—is a marvel of power and simplicity.

The machine throughout shows the care and intelligence used in its designing and production.



We offer first rate agency terms for first rate representation. Whether your interest is personal, as a rider, or commercial, as an agent, let us hear from you.

1457 Niagara Street **THE AUTO-BI COMPANY,** BUFFALO, N. Y.

Exhibiting at Chicago, February 6 - 13. At Boston, March 6 - 13.

Free Motorcycle Tire Insurance

We protect the user of Goodyear Strong Fabric Motorcycle Tires from all expense for upkeep for one full season.

Goodyear Strong Fabric Motorcycle Tires are all that the name implies—Tires of the Goodyear construction, famous the world over—strengthened by our Special Motorcycle Tire Fabric—built to stand the terrific grueling of motorcycle use, which soon sends the ordinary tire to the junk pile.

In the Goodyear Tires only the finest NEW Para rubber is used. It is quoted at $1.20 today. We could use Lapori or Guayule rubber that sells at 35c per pound, or even "reclaimed" rubber—from old boots or garden hose out of which the life had been burned by heat and acid. We could get THIS kind of rubber at 10 cents a pound—but it WON'T DO FOR A GOODYEAR.

Goodyear Strong Fabric Motorcycle Tires are so much better than the ordinary kind—so proof against the usual damage—that we cheerfully agree to become entirely responsible for the upkeep of each and every tire sold, for an entire season.

Should a Goodyear Strong Fabric Motorcycle Tire be injured IN ANY WAY, we will make the repairs entirely free during the period covered by the insurance, shown by the tag attached to the tire. This is the strongest guarantee ever put on a motorcycle tire.

Our purpose is to make good tires—not to sell them cheaper than others.

The cheaply constructed motorcycle tire means trouble almost from the start. Repair bills—if the tire can be repaired at all—are an expense that begins soon after the tire goes into use.

Goodyear Strong Fabric Motorcycle Tires not only outwear several pairs of this kind, but are of such construction that permanent repairs can be easily made.

They have the Goodyear Tough Rubber Tread, as strong as rawhide—united to a pure, soft Para rubber inside so perfectly as to be practically one piece. This in turn is strengthened by being woven into our close-woven fabric—four plies—

Making a tire so durable, and at the same time so resilient, that there is no comparison with the common motorcycle tire.

We also have a special thread fabric for racing purposes.

The Goodyear Strong Fabric is in reality the most economical tire on the market. That explains its popularity with motorcyclists who know—and why riders after trying the Goodyear will not have any other kind afterwards. Send today for sample section.

GOODYEAR STRONG FABRIC MOTOR-CYCLE TIRES

Made Single or Double Clinch

The Goodyear Tire & Rubber Co. Mott St., Akron, O.

Branches and Agencies: Boston, Mass., 261 Dartmouth Street; Cincinnati, Ohio, 317 E. Fifth Street; Los Angeles, Cal., 932 S. Main St.; Philadelphia, Pa., 1402 Ridge Ave.; New York City, 64th St. and Broadway; San Francisco, Cal., 506 Golden Gate Ave.; Chicago, Ill., 80-82 Michigan Ave.; Cleveland, Ohio, 2005 Euclid Ave.; St. Louis, 712 Morgan St.; Buffalo, N. Y., 716 Main St.; Detroit, Mich., 251 Jefferson Ave.; Pittsburg, Pa., 5988 Centre Ave.; Washington, D. C., 1026 Connecticut Ave.; Atlanta, Ga., 90 N. Pryor St.; Louisville, Ky., 1049-51 Third St.; New Orleans, La., 102-16 Barrone St.; Memphis, Tenn., 181-85 Madison St.; Dallas, Tex., 111 N. Akard St.; Denver, Colo., 25 W. Colfax Ave.; Baltimore, Md., 881 Park Ave.; Kansas City, Mo., 16th and McGee Sts.; Omaha, Neb., 2020-22 Farnam St.

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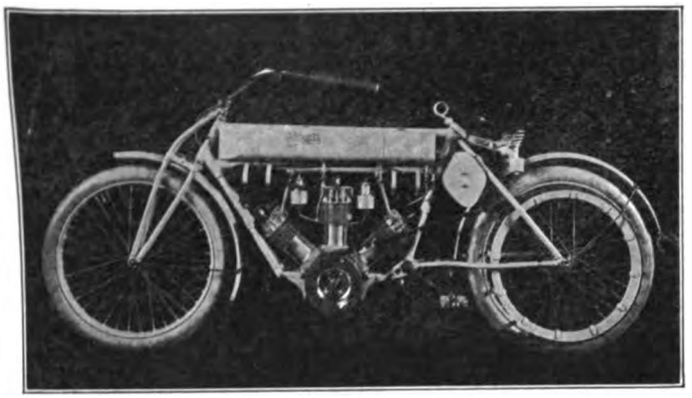
The New York Show Served to Demonstrate What a Long Lead

The Curtiss

Has and Has Had on All the Others



1, 2 and 3 Cylinders—3 to 10 Horsepower.

The Double Bar Frame, the Long Wheel Base, the Vertical Engine with stripped cylinders and anti-friction bearings, V-belt and other so-called "new" features are merely old features of the Curtiss which the others were slow to recognize until public opinion forced them to do so. We have used them for years.

The truly wise man will require no better guide to enable him to make his selection.

OUR LITERATURE IS BOTH INTERESTING AND ATTRACTIVE.

G. H. Curtiss Mfg. Co.

Hammondsport, N. Y.

At Last

A Perfect Headlight and Generator for Motorcycle Use

The new Solar Headlight and Generator is built to outlast your machine. It is constructed with the same care, skill and quality in material that has made Solar motor car lamps the Best in the World.

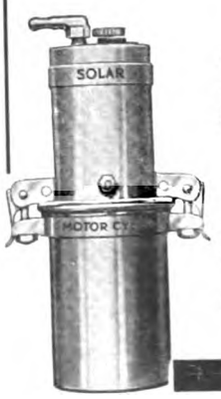
Solar
Lamps SHOW THE WAY

HEADLIGHT

The Solar Headlight will stand the hardest usage—the most severe vibration has no effect upon it. It is the most powerful headlight of its size in the world. There is no headlight that can even approach it in actual lighting efficiency.

The Generator has the largest capacity and the best system of gas generation on the market.

The Searchlight type lens mirror headlight is the same in construction and design as the famous Solar Motor Car Headlights.



Write at once for particulars regarding this Headlight. Makes night riding as safe and comfortable as in the day.

When ordering state make and model of your motorcycle so we can supply proper bracket.

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The World's Record Belt

Over 7 Years on the Market

WHILE the V Belt Drive has proven to be the simplest and most perfect drive on the market, you should remember that the

SHAMROCK GLORIA Rubber Belt

is the ONLY PERFECT V Belt.

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At the recent Stanley Show S.G. Belts were exhibited on more motorcycles than all other makes combined.

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Shamrock Gloria Belts predominated by nearly 100 per cent.

THERE'S REAL LIVE PROOF

The manufacturers know it's the best, therefore you should positively

Insist on the Genuine.

Write for Our Folder

N. S. U. MOTOR COMPANY

206 West 76th Street New York City

Indian and Harley-Davidson

MOTORCYCLES

Parts, Supplies and Repairs

Send for large accessory catalogue

Great Bargains in Second-hand MOTORCYCLES

$50 up. Twins $150 up

F. B. WIDMAYER

2312 BROADWAY NEW YORK

A Motorbike Without an O-M-C Stand Is Like a Ship Without a Sail

MOST RIGID STAND KNOWN

Improved for 1909

If your dealer does not handle it we will ship it to you express prepaid when $3.50 is sent with order.

Patents Pending.

Equipment as follows:

Black enameled, working parts nickeled	$3.50
Special Colors	4.00
Fully Nickel Plated	4.50

Specify make of machine

Good dealers' proposition.

OBERWEGNER MOTOR CO.

Manufacturers TOLEDO, O.

Represented in New York by Tiger Cycle Works, 782 Eighth Avenue

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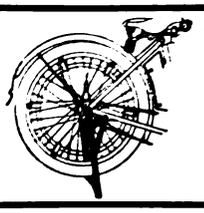


Quick Action Motorcycle Stand. Raised or lowered instantly with the foot. Perfectly rigid. Absolutely Reliable.

Quick Action Motorcycle Repair Pedal. Carried in tool bag or pocket to replace a broken pedal.

Mfrd. by **HENRY T. ADAMS CO.**, 6846 So. Park Ave., Chicago

Write for particulars *For sale by most jobbers*

Patent applied for

M.M.

MOTORCYCLES IN STOCK

3½ H. P. Single Cylinders
7 H. P. Twin Cylinders

New York Headquarters, 8 W. 60th St.

N. S. U.

A few shop-worn machines for sale reasonable.
Also second-hand machines taken in trade at the show at a bargain.
Open Sundays and evenings.

J. F. McLAUGHLIN
206 West 76th Street New York City

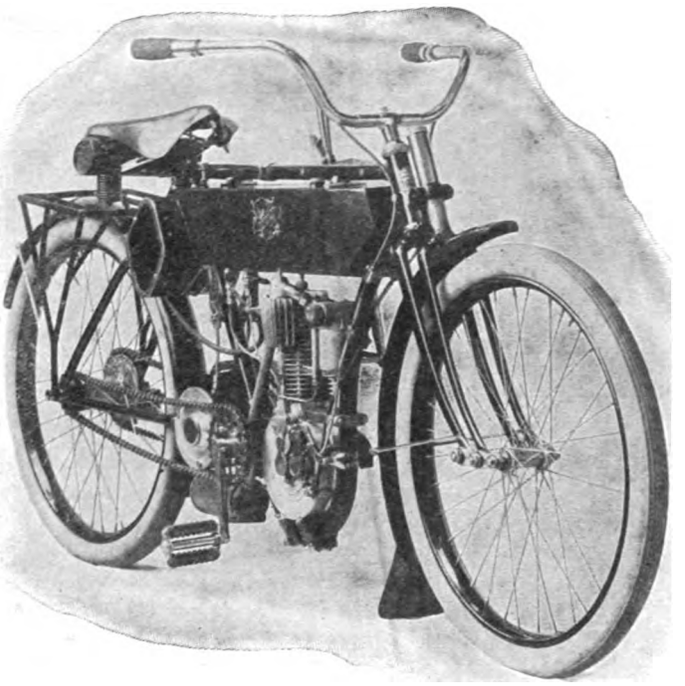
We Want TOURS, STORIES, EXPERIENCES; Motorcycle, of Course

We Pay for Good Ones

The 1909 MINNEAPOLIS TWO-SPEED Is a Marvel

THOR Motors and THOR Equipment

Chicago Show February 6-13



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Fast Powerful Comfortable Attractive

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TIGER CYCLE WORKS CO.
782 EIGHTH AVE. NEW YORK
Distributors for New York and Long Island of
Royal Pioneer and Reliance MOTORCYCLES
Everything for Motorcycles and Their Owners.

Did you ever see the
Harley-Davidson One Piece Cylinder?
Well, We Make Them!
Let us figure on your iron castings. We are making a specialty of motorcycle cylinders.
STANDARD FOUNDRY CO., Racine, Wis.

Advertise your second hand machines in the
MOTORCYCLE MART
It Sells the Stuff. Two Cents a word

C.O.T. Gum Gum. Ask your dealer how nicely it repairs digouts in your auto shoe. For sale by jobbers. CHAS. O. TINGLEY & CO., Rahway, N. J.

MOTORCYCLE SUPPLIES
SEND FOR CATALOGUE
MOTORCYCLE SUPPLY CO.
HAMMONDSPORT, N.Y.

THE MOTOR CYCLE
The British Motor Cycle
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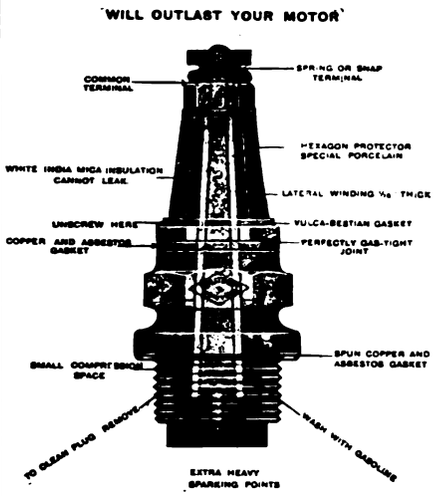

The Charm of Good Service is always present with the use of the

SPLITDORF Motorcycle Plug

Always remember that this Plug is made expressly for Motorcycle work and will give you better service than any other.

Don't be stung with an imitation—for it is imitated. Ask for and obtain it.

C. F. SPLITDORF

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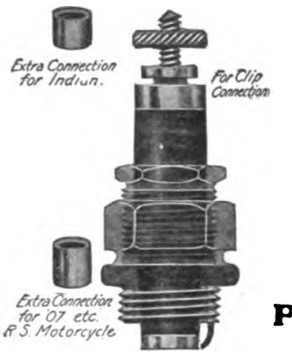
MONARCH MOTORCYCLE SPARK PLUG

BEST IN THE WORLD



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Price $1.00

We guarantee satisfactory results with this plug or refund your money in 90 days.

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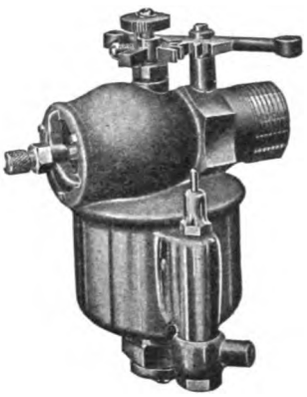

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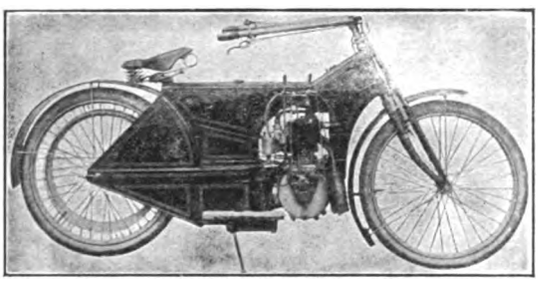

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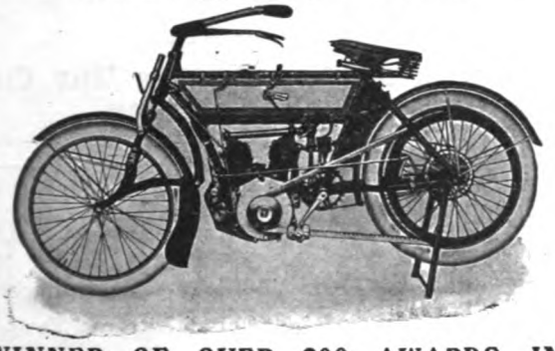

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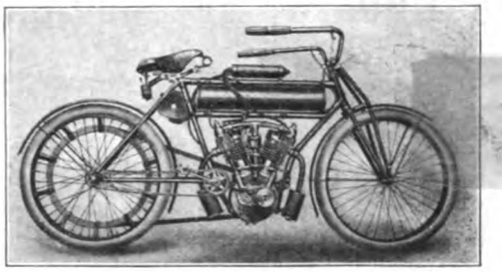

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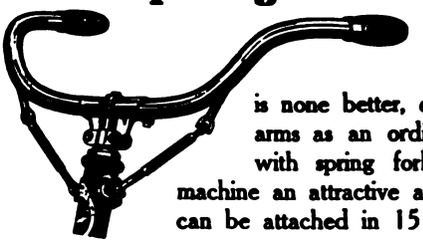

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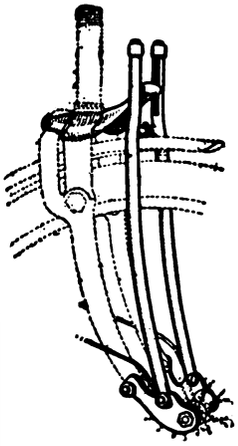

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MOTORCYCLE ILLUSTRATED

Vol. IV. No. 4 Feb. 15, 1909

PUBLISHED BY THE MOTORCYCLE PUBLISHING CO., 299 BROADWAY, NEW YORK CITY

THE CHICAGO SHOW

THE exhibits of twenty-two manufacturers made the Motorcycle Section one of the most attractive features of the Automobile Show held in the Coliseum and Armory in Chicago last week. Judging from the volume of interest manifested by visitors to this section throughout the week the missionary work that has gone on for years finally has established the motorcycle on a firm basis and the buying public has been convinced that it is a speedy, safe and economical method of transportation.

In the Chicago Show were several makes which were not in the A. L. A. M. exhibition in New York City a couple of weeks back, while, on the other hand, some of those who showed at New York steered clear of Chicago. On the whole, though, the Chicago demonstration was a very comprehensive one. Among those which were not at New York were the three machines from the Northwest —the Minneapolis, Wagner and Thiem. The Armac, Torpedo and Magnet were also shown for the first time this year. These six machines are fully described in this issue of MOTORCYCLE ILLUSTRATED, together with those makes exhibited at the New York Show, which were not fully described in the New York Show number of this publication.

In previous Chicago shows it was customary to drop the little machines in anywhere they would fit—sometimes there would be a few in the armory, some would be among the sundries in the Coliseum gallery, while others would be located in the annex. But Manager Miles recognized the importance of this branch of the industry by establishing a separate division for the two wheelers this time, segregating them, as it were, which proved a most pleasing innovation to the devotees of the "Here she comes, there she goes" type, even though it was rather difficult to find the approach to the exhibit. When you discovered the corner where you went up stairs you saw this sign: "To Gallery Exhibits and Second Annex Exhibits." Then over the door to the room where the motorcycle exhibits held forth was this simple legend, "Exit Only."

The Reading Standard Company exhibited the much traveled machine on which "Jack Knife," the newspaper man, rode through Europe. It is claimed by the R-S people that the machine cost the rider not one dollar for repairs during the entire trip. He toured England, Scotland, France, Belgium, Holland, Germany, Denmark, Sweden and Norway, a total of about 10,000 miles.

The six machines which were not exhibited at the New York Show were distinguished by the following features: Armac, shown for the first time in twin form; Wagner, the only ladies' model, while the roadster revealed a more powerful motor, improved tanks and rubber V belt; Torpedo, new spring frame, handlebar and muffler; Magnet, new belt drive; Minneapolis, two-speed gear; Thiem, a variety of new features. All of these machines are elsewhere described in detail.

The Coliseum and the Armory were shown in dazzling makeup when the doors were thrown open for the first visitors. Fifty thousand dollars had been spent in decorations. The prevailing color was bronze. Papier mache, staff work, statuary and potted plants showed up under the glare of hundreds of thousands of electric lights.

WAGNER LADIES' MODEL AND ROADSTER

CONSIDERABLE interest was shown in the drop frame ladies' model of the Wagner motorcycle. This is the only ladies' motorcycle built in this country, and the Wagner was the only one exhibited at the show. What most the fair sex wanted to know, though, was how to stop it if it tried to run away.

The frame is the patented Wagner loop, and the front fork is of the double truss type used exclusively on the Wagner. The motor is a single cylinder of 3½-h., with a bore and stroke of 3¼ inches. Inlet valve is automatic. The right grip controls the throttle on the Breeze carbureter, and the left grip the spark advance, valve lifter and automatic switch, for cutting out the batteries. A switch plug is also used in the coil. A neat cut out is within easy reach of the right hand. Transmission is by seven-eighths inch Shamrock-Gloria rubber V belt. Wheels are all 28 inches by 2½ inches; front axle of the knockout type, with seven-sixteenths inch axle. Morgan & Wright tires are used exclusively. The gasoline tank is situated behind the seat, and has a capacity of two gallons. A positive needle valve shut-off is contained in the tank. Lubrication is by sight feed drip, and the oil tank holds five pints. Special emphasis is laid on the fact that unusually heavy spokes are used in the rear wheel. Four inch mudguards extending well around the wheels are used. Double braces are employed on the front guard, and a large leather flap is furnished.

The exhaust is through the frame loop into a small muffler of Mr. Wagner's design, which has proved very efficient during the past season. The equipment includes Rough Rider grips and Eclipse coaster hub.

The Wagner roadster is of the same specifications, only

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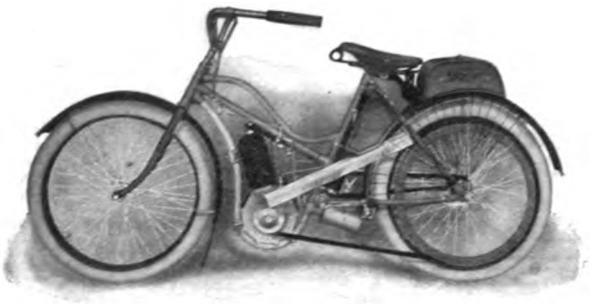
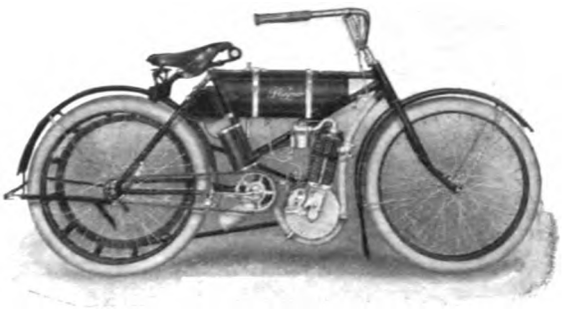


WAGNER LADIES' MODEL 3½ H.P.



WAGNER TOURISTS' MODEL 3½ H.P.

that the horizontal bar is used and the tanks are suspended from this bar. A very strong band fastening holds the tank on the frame in such a manner that it will not shake loose, no matter how rough the roads may be. This model lists at $200, with battery ignition. All Wagner models are equipped with the newly designed stand without additional charge. This is a very rigid affair, and permits the rear wheel to be removed without disturbing the stand.

THE PEDALESS THIEM

CONSIDERABLE interest was shown in the 2-speed model exhibited by the Thiem Manufacturing Company. The machine has no pedals, but very comfortable footrests are provided. Three foot pedals control the entire change speed mechanism in the rear hub as well as two powerful band brakes, one internal expanding and the other external contracting, both acting on the rear hubs. The low gear gives the motor a 7¾ to 1 gear and the high gear is 3¾ to 1. The two speed gear, being in the rear hub, permits of the motor being cranked from the rear axle, with the clutch disengaged. The entire gear and rear hub are mounted on imported F. & S. annular ball bearings and actually weighs less than one pound more than some of the ordinary motorcycle coaster brakes on the American market.

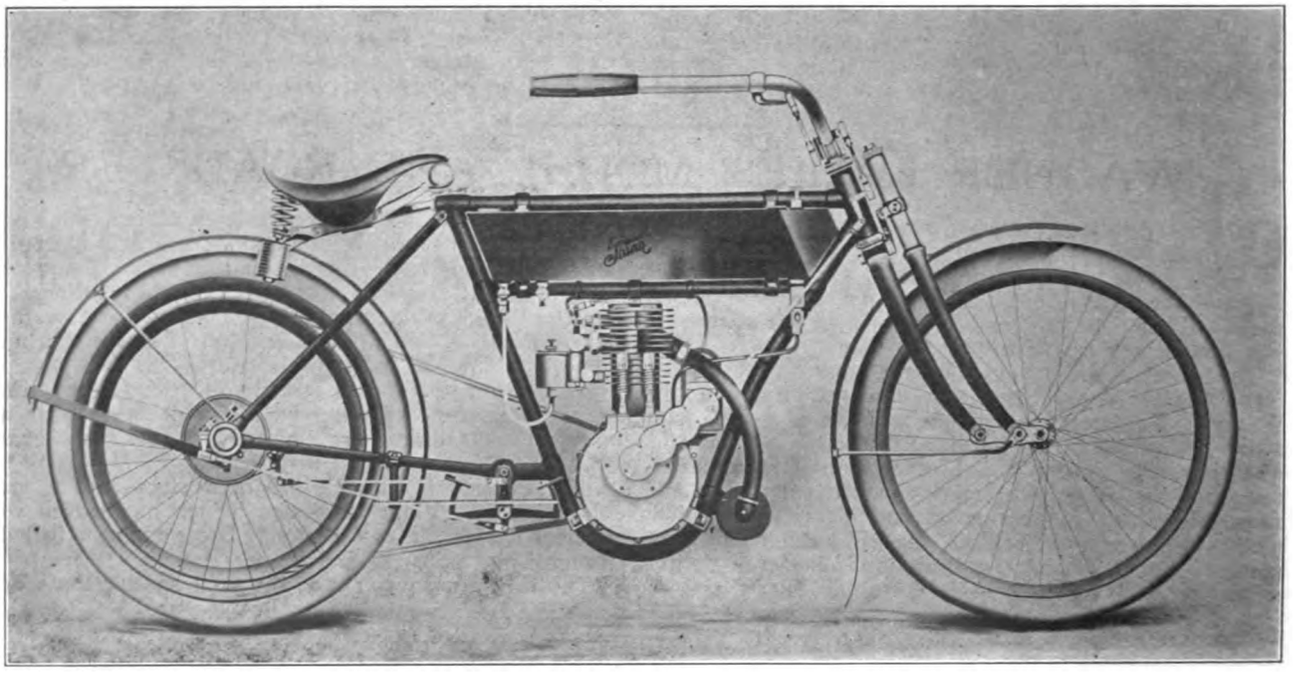
The Thiem company is building a machine called the American for their Chicago representative, Mr. Mussellman. The machine has the same specifications as their Model D, with the exception that the batteries and coil are carried in a large, roomy receptacle under the seat, which also has space for tools, etc.

The cylinder and head of the single cylinder machine are made from special gray iron and are cast integral. Valve chambers are part of cylinder, but has an air space between itself and cylinder, both have large cooling flanges. Exhaust port is very large, and exhaust and inlet valves are large. The cylinder is finished by first boring, then heat treatment and then by special grinding, and then by final polishing. It has a bore of 3¼ inches by 3¼ inch stroke.

The piston is made of hard gray iron, heat treated and ground to a true and round surface. The piston is very light, as is also the connecting rod, to eliminate vibration.

The piston rings are made by an entirely new process, finished entirely by grinding, and are guaranteed to keep the spring in them until worn out by long usage.

The connecting rod is of I beam section, has large ball bearing, receives heat treatment, is very light and strong. Special attention has been paid to the piston and connecting rod, to have them as light as is consistent with sufficient strength, because these are reciprocating parts. Bearings are all of the F. & S. annular ball bearing, type



SINGLE CYLINDER THIEM, WITH MANY NEW FEATURES

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PI, having die-cast ball separators. They are guaranteed by the maker to be of ample size for the purpose and properly housed.

The exhaust and intake valves are interchangeable, made of nickel steel drop forgings turned on centers, then heat treated and ground on steam and seat. After that they are ground to valve seat.

The exhaust valve cam and cam gear are integral, made from a solid steel bar hardened and ground. The cam lifts the valves by first coming in contact with a hardened roller held in the valve lifter, or pawl. This in turn lifts the valves and relieves the push rods from all side strain and friction.

The fly wheels are very large and securely fastened to the hardened shafts with rivets, and insure a steady, constant torque, carefully balanced to eliminate vibration.

The bases are made of aluminum nickel alloy of great strength, are in two halves with an oil-tight joint, has special vent and oil retainer, returning the oil that works out of bearing of the base on the pulley side of motor. On the timer side the shaft is completely covered by the cam and gear case.

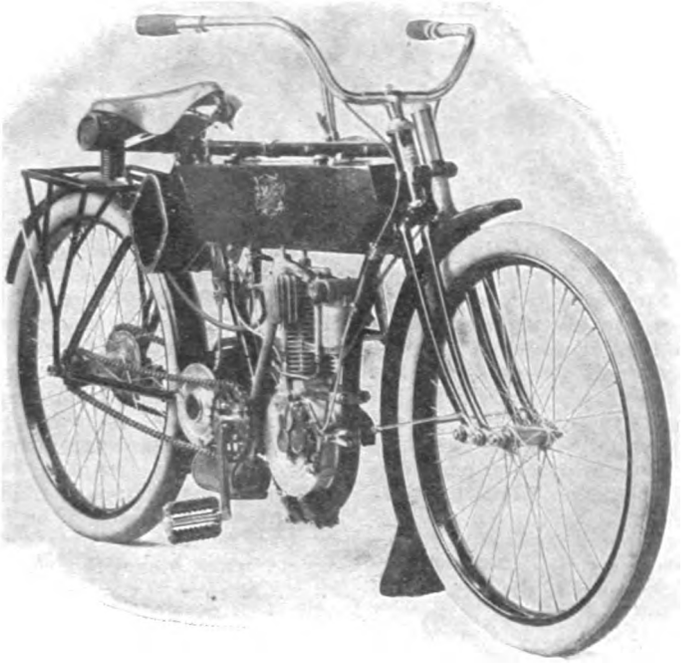
The timer case is held to the cam case by a hardened steel bearing nut against a hardened steel spring washer, which prevents the usual wabbling common in most motors and causes misfiring. The contact maker is of hardened bronze, oscillates on a hardened screw, is held against the timing cam by a coil spring. The adjustable screw is held in timer case by a fiber bushing.

Oiling is by a special force pump located in tank and can be operated while riding. This insures against any and all dangers of not oiling, as is sure sometimes to happen with sight-feed oilers. The gasoline tank holds six quarts of gasoline, sufficient for more than 100 miles, and two quarts of lubricating oil, sufficient for more than 200 miles.

The Minneapolis Frame is of seamless steel tubing, all 16 gauge, has long wheel base and very low saddle position. Motor is low in frame and securely fastened in loop, low center of gravity, easy to ride through sand and crowded traffic streets.

The battery tank contains batteries and coil, protecting coil from moisture and dust, and is neatly put in rear diamond to allow low saddle position.

The transmission is of the approved V belt of correct angle, eliminating the use of idler.



TWO-SPEED MINNEAPOLIS MODEL FOR 1909.

THE MINNEAPOLIS TWO-SPEED

TWO models of the Minneapolis Two-Speed were staged, a 2¾-h. single cylinder and a 6-h. twin. The former sells for $250, with batteries and coil, and the latter for $325, with the same equipment. Magnetos will be furnished at an advanced price.

Thor motors and parts are used exclusively, with the exception of spring forks and handlebars, which are of the Minneapolis firm's own design. 28 inch by 2½ inch wheels and 55 inch wheel base are standard.

Oiling is by vacuum pump encased in tank, and gasoline line is fitted with a needle valve and dirt trap. The frame construction is of the trussed bar type rigidly reenforced throughout. The exclusive feature on these machines is, of course, the planetary two-speed gear. The gearing is enclosed in a steel drum 5½ inches in diameter. The drive from the engine to transmission countershaft is by roller chain. The low gear is obtained by means of a reduction system of spur gears, and is thrown into engagement by means of a four jawed hardened steel clutch. The clutch is positive in operation, but the action of changing gears is perfectly smooth, owing to the compensating sprocket on the rear hub. The free engine obtained in the neutral position of the lever makes it possible to start the motor without pedalling by means of a crank. On the high speed, the entire mechanism revolves, and is made to act as a balance wheel. The entire transmission system is mounted on imported Hess-Bright annular ball bearings, and thereby there is a minimum amount of friction created. The drive from gear box is by means of roller chains, although a 28-inch V belt will be furnished as an option on the twin cylinder models from the countershaft to the rear wheel.

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MAGNET LIGHTWEIGHT A FEATURE

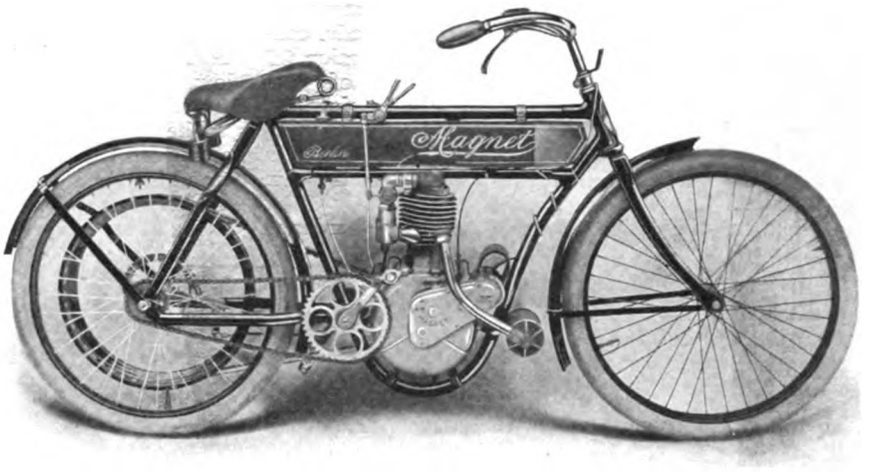
THE exhibit of the Magnet Motor Company of Chicago consisted of three Magnet motorcycles, viz.: One 7-h. Magnet special twin, in full touring equipment, such as comfortable footrests, imported F. R. S. lamp, connected with gas tank, Warner speedometer, self-starting stand, etc., finished in black frame with red tank. One 3½-h. Magnet special single finished as above, but in the Standard equipment, and one 2¼-h. Lightweight de Luxe in cream color. This machine attracted considerable attention, because it represents one of the most successful Lightweights abroad. It has not in any way a freakish design, like many other lightweights, but is a reduced replica of the larger machines, with no detail lacking; it has a very substantial frame with drop forgings throughout, yet it weighs complete no more than ninety-five pounds. The little machine is equipped with a neat variable pulley which gives a choice of gear ratio from 1:4½ to 1:7.

The Twin has 26 inch wheels, with M. & W.-Bailey tread tires (optional 24 inch). The Single 3½-h. has 24 x 2½ inch Shamrock-Excelsior (optional 26 inch) and the Lightweight 24 by 2 inch Shamrock tires. All machines are equipped with Magnet low tension make-and-break ignition, B. & B. carbureter with handlebar control, and heavy band brake.

The most striking feature on the Magnet, possibly, is the system of make and break ignition which is used. A small boss, cast on the piston head, strikes a tiny bell crank on the inside of the cylinder head, which breaks the low tension circuit. Low tension magnetos of the company's own make furnish the current. The voltage is but 120, as against 3,000 or 4,000 when a high tension system is used. This, the makers claim, makes a short circuit, a very rare occurrence indeed. All models are equipped with handlebar controlled carbureter of the famous Brown & Barlow brand, the control levers being placed conveniently to the thumb and forefinger of the right hand.

Large sized band brakes are shown on these machines operated by back pedaling. On the touring models, an automatic stand is provided with which it is possible to start the machine by pushing a pedal which raises the stand and at the same time drops the rear wheel onto the road.

Automatic inlet valves are used on the lightweight single, but the valves on the touring models are mechanical. All models have the intake over the exhaust valve which tends to keep the latter cool. In the cylinder head may be found a small priming valve for easy starting of the motor in cold weather. This is not a petcock, but a tiny poppet valve, which when depressed by the finger allows a small quantity of gasoline to run into the explosion head from a small cup which has previously been filled with the petrolgun.



MAGNET LIGHTWEIGHT.

The lightweight, catalogued at $225, has a bore and stroke of 70 mm., 24 inch wheels shod with 2 inch tires, and a wheel base of 48 inches. A ⅞ inch waterproofed leather V belt is used.

A noticeable feature of the twin cylinder is the employment of two magnetos. The makers claim that by using a separate magneto for each cylinder the machines will run very much slower without misfiring. The Magnet system of ignition does away with all platinum contact points.

THREE ARMAC MODELS

OF course the feature at the Armac exhibit was the big, new, 6-h. twin, but the company had two other models on view—a 4-h. "Bulldog Special," as they call it, and one of their regular 3-h. roadsters. All models are equipped with battery ignition, double grip control, Armac carbureter, and the improved Armac spring fork. The roadster has a wheel base of 56 inches, and is equipped with 2¼ inch tires. The option is given of 26 inch or 28 inch wheels on all models, and 2½ inch tires are used on the 4 and 6 horsepower. The well known Armac frame construction is continued, the designer declaring that not one Armac frame of this construction had ever been known to break. On the Bulldog and twin, a muffler of neat appearance is shown, large, straight exhaust pipes taking the spent gases from the cylinder direct to the muffler without any bends. The Armac claim any bend whatever in an exhaust pipe is conducive to overheating of the motor. The Armac carbureter is especially worthy of mention. It is of the central draft, float feed, automatic compensating type.

The 3-h. roadster exhausts direct into the frame. This machine lists at $200, the Bulldog at $225, and the 6-h. twin sells for $300. All machines will be equipped this year with an improved stand without additional charge.

Automatic inlet valves are used exclusively. A change in the valve lifting mechanism has been made in the 4 and 6-h., doing away with the intermediate gear in the 2 to 1 system.

Standard Armac colors will be black, French gray or Armac green. Waterproof leather 28 inch V belts will be used exclusively.

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THE TORPEDO

THERE were four models of the Torpedo on view, a 6-h. twin with magneto, a 3-h. single with magneto and spring frame, a 3-h. roadster and a 2¼-h. light roadster.

Thor motors are used exclusively, all except the light roadster being the internally geared motors. The direct chain drive is used on this model. All are equipped with 2¼ inch tires and 26 inch wheels, except the twin which has 2¼ inch tires. The choice of tires is left to the purchaser.

All models are fitted with perfected Torpedo spring forks, and the same idea in spring suspension is carried out in the spring frame model. The spiral compression springs are contained in the vertical steel tube which can be seen just over the rear axle. The arch of this tube over the rear mudguard makes any side play of the rear wheel an impossibility. This tube is also very rigidly attached to the rear stays, both upper and lower, so that it is easily seen that the frame as a whole is made no weaker by the insertion of the spring frame feature. Recoil springs of ample size are used in connection with this device. An automatic chain idler is used to take up any jerk in the drive chain resulting from the action of the spring frame. The makers claim that they have never broken a chain on one of these spring frame machines.

The Torpedo frame is of the trussed loop type, with the seat post dropped four or five inches, permitting of a very low saddle position. Double grip control is furnished on all models, and the option is given of either batteries and coil or high tension magneto ignition, with the exception of the light roadster, which can only be had with batteries.

The prices are as follows: Light roadster, $190; 3-h. geared motor, $225; 3-h. with spring frame, $250, and double cylinder, $275. Magneto ignition, as previously mentioned, is extra. When magneto is used it is of the gear driven type. The frame on the twin is considerably reinforced to withstand the added strain.

An unusually large gas and oil supply is carried on the Torpedo, and the batteries and coil are also found in the same 3 in 1 tank. Lubrication is by hand pump.

ACCESSORY MANUFACTURERS

The following tire makers had exhibits of motorcycle tires: Empire Automobile Tire Company, Morgan & Wright, G & J Tire Company, B. F. Goodrich Company, and the Goodyear Tire and Rubber Company.

Among the exhibits of J. H. Sager were to be found samples of the Sager Spring Fork.

C. F. Splitdorf had several spark coils on view. These coils are too well known to motorcyclists to need any description.

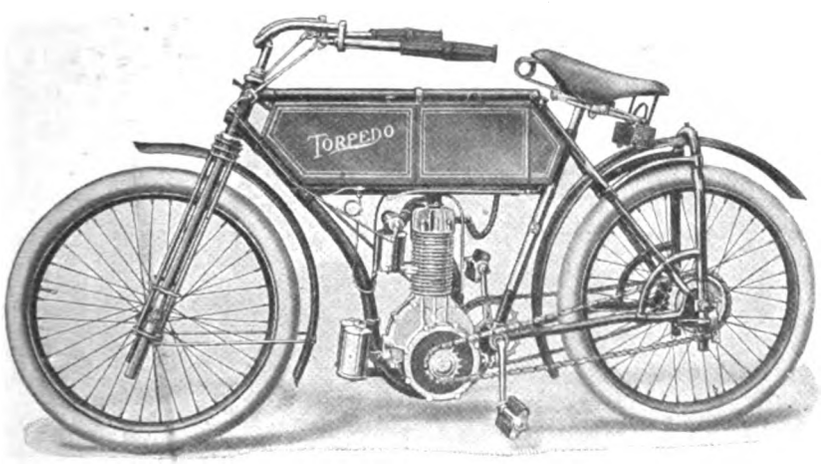
Besides the new Solar separate generator motorcycle lamp, which they are exhibiting, the Badger Brass Manufacturing Company now have brackets ready for attachment to any make of machine.

A neat and compact acetylene gas tank was shown by the Avery Portable Lighting Company. This is designed especially for motorcyclists' use, and has clip for attachment to the frame.

The Oberwegner Band Brake made its first appearance. It is of very strong construction throughout, and is designed to meet the demand for a band brake as an auxiliary. It is placed on the front wheel and is operated by means of Bowden wire connecting with a lever on the handlebars. The brake is made by the Oberwegner Manufacturing Company, Toledo, Ohio. This concern also markets the motorcycle stand of the same name. This stand has been greatly improved for this year, and is one of the most rigid stands on the market.

The Imperial Manufacturing Company showed a very complete line of small pipe fittings suitable for motorcycles. They are making a specialty of a transparent barrel oil pump for motorcycles.

The Lewis Two Speed Gear is being marketed by C. H. Lang & Co., the Chicago agents for the Harley-Davidson line. This mechanism is of the spur gear planetary type and is applicable to any flat belt machine. It may be marketed in the near future for use with V belts. This gear also provides for a free engine. The two speeds and free engine are secured by means of a small lever which may be placed on the tank or in any convenient position. This lever operates on a quadrant with three notches.



TORPEDO SINGLE 3-H. ROADSTER.

Chicago Banquet

THE motorcyclists of Chicago were banqueted and entertained Friday evening at the Illinois Chauffeurs' Club, 1436 Michigan avenue, by the Chicago. M. C. Matters of interest to the members of the club and to motorcyclists in general were discussed, and there were music and a vaudeville entertainment for diversion. The C. M. C. has been prominent in the two-wheeled car sport since its inception, and being affiliated with the F. A. M., has the advantages the parent body can bestow. The dinner proved to be a big success, serving at least to strengthen confidence in the Windy City and nearby places in the future of the motorcycle, and furnishing a pleasant opportunity for renewing acquaintanceships.

St. Louis Show Now On

THE third annual show of the St. Louis Automobile Manufacturers' and Dealers' Association is being held in the new Coliseum Building at Jefferson and Washington avenues. The manager of the show is Lloyd Rickert, secretary of the American Baseball Association.

Buffalo Exhibition Soon

THE 1909 Buffalo Power Boat and Sportsmen's Show will open March 8 in the auditorium in Convention Hall. It will be held under the auspices of the Buffalo Launch Club, D. H. Lewis, 760 Main street, manager. The show will cost just twice as much to produce as did

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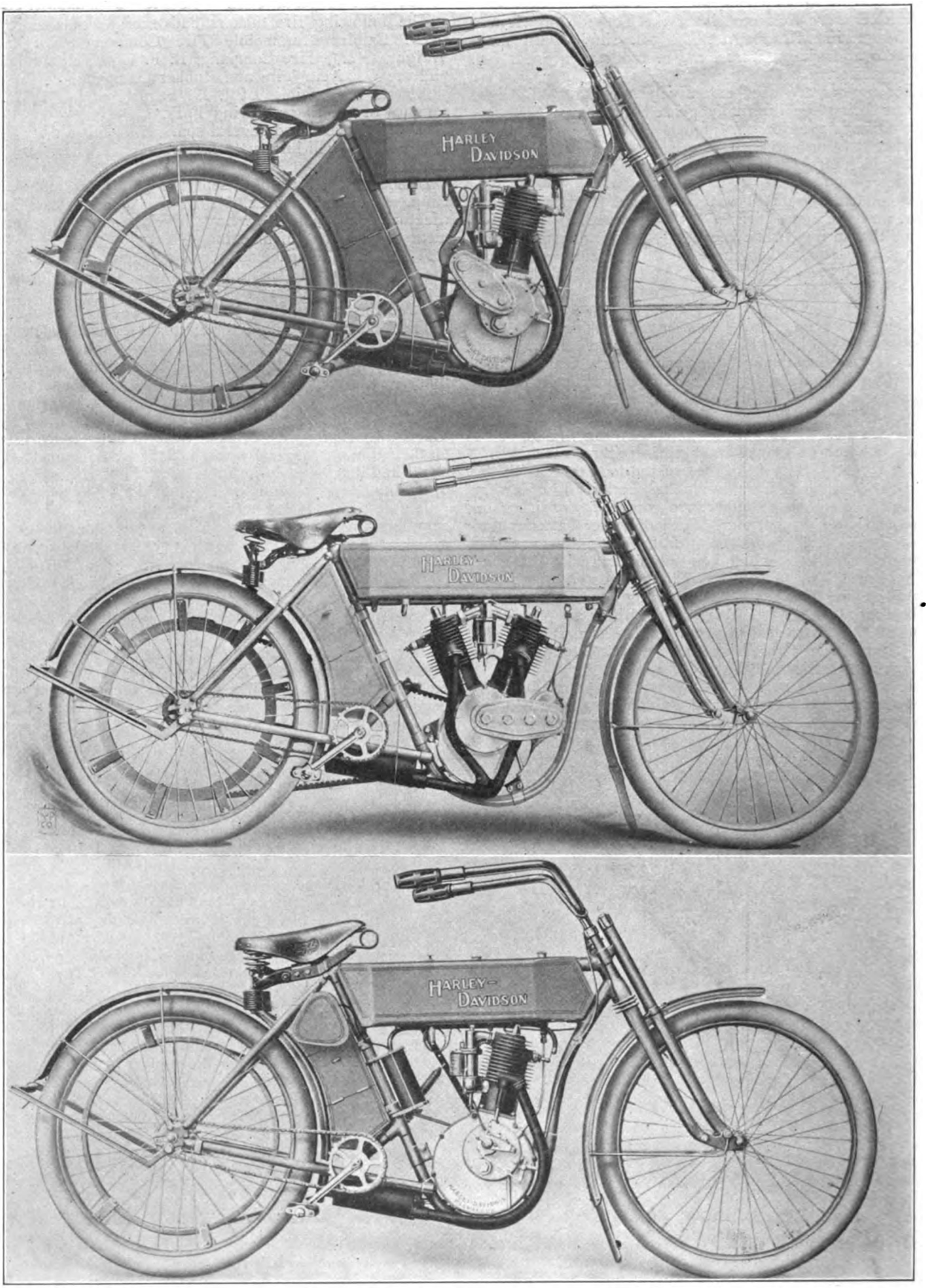

THREE HARLEY-DAVIDSONS: MAGNETO SINGLE, MAGNETO TWIN, BATTERY SINGLE.

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FROM THE TECHNICAL SIDE

By ROLLAND C. LAURIE

Part II. New York and Chicago Shows

THE Harley-Davidson exhibit consisted of three models, two being single cylinder with ignition by battery and magneto, and one twin cylinder with magneto ignition. The single cylinder develops a full 4-h., being 30.17 cubic inches piston displacement, with bore and stroke three and five-sixteenths by three and one-third inches. The 7-h. twin has a bore and stroke of three and one-eighth inches by three and one-third inches. The frame is of loop design with a double truss fitted to all models, and a very strong triple crown is a noticeable feature. This frame is reinforced at all connections with "fish tail" reinforcements. The cylinder head is cast in one piece and is strong and substantial enough to withstand the very roughest usage. Amongst the separate fittings was shown a special design of extra heavy turned head fittings as included in this machine, and it was noticeable that one-quarter inch balls were used in place of the usual three-sixteenths. The steering head is of one piece, cast steel, and the lower tube of the double top bar is brazed directly into this steel steering head, producing a frame of uncommon strength.

The motor is fastened in the loop at the bottom of the frame by means of clamps brazed onto the frame, but is not made part of the frame, the claim being that by this construction the motor is not subject to the strains and jars that it would be were it used as a binder to tie the frame together. The frame of the Harley-Davidson is nineteen inches in height, and this affords a very low and comfortable riding position. The low-hung motor with the low saddle position in this design should together produce a very comfortable and safe riding machine, with a very low center of gravity. Twenty-eight inch wheels are fitted on the battery machine and twenty-six inch wheels on the magneto, thirty-six spokes being built into the front and back wheels respectively. An extremely interesting feature was that both wheels on the twin cylinder model were fitted with twenty-eight by two and three-quarter inch Empire tires with automobile treads, which should be very durable. Very wide four and one-half inch mud guards are fitted to all models.

The cushion fork has many improvements in design over the 1908 pattern, should be free from jarring, and still prove strong enough for any work. The fork-sides, which contain the springs, have been increased to one inch in diameter, thus allowing for the use of larger and much more flexible springs than formerly. The bearings in the rocker plates have been enlarged and the design has been changed so that the front wheel can be removed by merely loosening the two nuts on the rocker plate studs. This spring fork consists of the type known as triple construction, that is, the main fork side pieces are extended to the top of the head and the auxiliary forks run parallel with these. These auxiliary forks are bridged just above the wheel, and have a very strong steel cast bridge-piece attached to the two extended sides of the main fork.

The tanks are of well-thought-out construction, and are practically leak-proof in every way. The tanks completely cover the top tube. Their capacity is, on the twenty-six inch machine, two gallons of fuel and two quarts of lubricating oil, and on the twenty-eighth inch machine, two and one-half gallons of gasoline and two and one-half quarts of oil; on the twin cylinder three gallons of gasoline and three quarts of oil. The oil tank is not made part of the gasoline tank, but fills in the space between the upper and lower top bars of the frame. The gasoline tank is composed of two compartments, and is hung over the top bar of the frame like a pair of saddle bags, the two gasoline tanks being connected at the rear underneath by a U with a ball socket. The fillers of both the gasoline and oil tanks are large and the shut-off valves are very conveniently placed on the top of the tanks. A large and convenient water-proof tool box is placed between the rear wheel and the seat mast and follows the general lines of the machine very neatly. The lubrication is by gravity sight-feed. Particular note may be made of the fact that this feed has a needle valve adjustment, the milled nut of which is situated on the left hand side forward of the tank.

The carbureter used is the same one which won the F. A. M. economy test last June, by actually running fifty-two miles on one quart and one ounce of gasoline. The action of this carbureter is claimed to be absolutely automatic, independently adjusting itself to any variation of speed. The engine is practically the same as that of last year, but in the 1909 motor particular attention has been paid to proportioning and balancing the parts, especially the balancing of the fly-wheels, and the claim is that the motor is free from vibration. The cylinder is made of new material, using a close-grained hard iron and an up-to-date process of grinding in a specially designed Heald cylinder grinder which insures absolute accuracy. Hardened steel is used in the new valve motion, and every shaft-pin and gear is carefully hardened and ground. The connecting rod is drop forged; the bearings are longer than those of last year, the gears being of the same size,

The transmission is by either flat or V belt at the option of the purchaser; where the flat belt is used a spring tension adjuster is supplied. Where a V belt is used a V belt of twenty-eight degrees is fitted. The gear on the single is four and one-half to one, and on the twin cylinder four to one. The magneto is gear driven and is run in an oil tight case. The fixing of the magneto on the twin is a very neat piece of work, as it is bolted to a platform cast on the crank case in front, the magneto being between the engine and the bottom tube is in a thoroughly protected position. On the single the magneto is placed on a platform behind the crank case which is integral with the crank case casting. The gears are covered by a neat oil-tight single-piece casting of aluminum, which fits onto the crank case in a neat manner.

The twin cylinder Harley-Davidson is solely fitted with magneto ignition. The valve motion in this cylinder is constructed of a special high grade of steel. The secondary gear and pinion and also the magneto drive gears are all made of hardened steel. The support for the magneto, which has been mentioned before, affords no chance for the driving gears to get out of line. The grip control is on the helix-cut principle, the operation being that the turning of this helix sleeve pulls a one-sixteenth piano wire which proceeds to the various seats of operation. A very neat muffler cut-out is fitted, operated by a wire with a loop at the top end running up by the seat mast and pulling upon a hinged flat cover which has a spring clip attached to keep it otherwise shut. This is fitted just at the end of the exhaust pipe, at the right angle turn just before the gases enter the muffler, and thus the gases have a perfectly free exhaust the moment the muffler is cut out.

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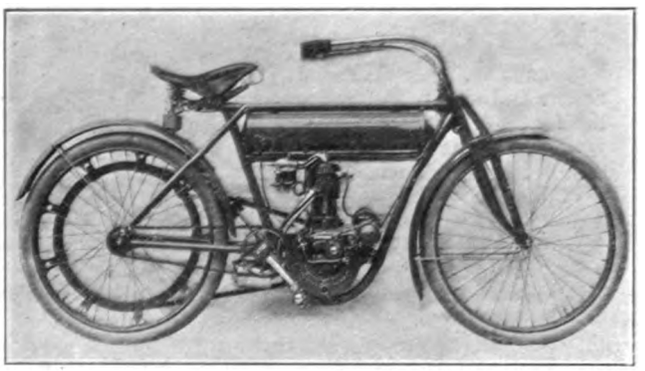
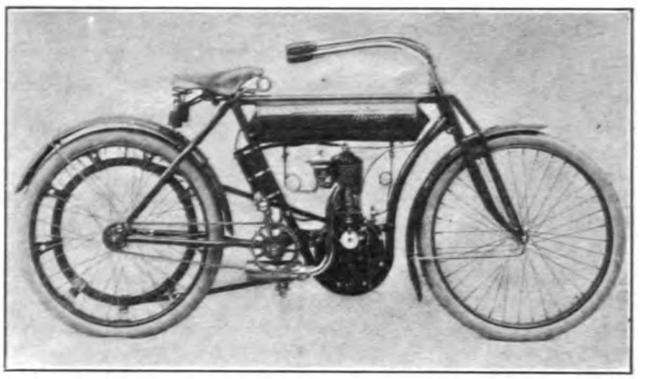
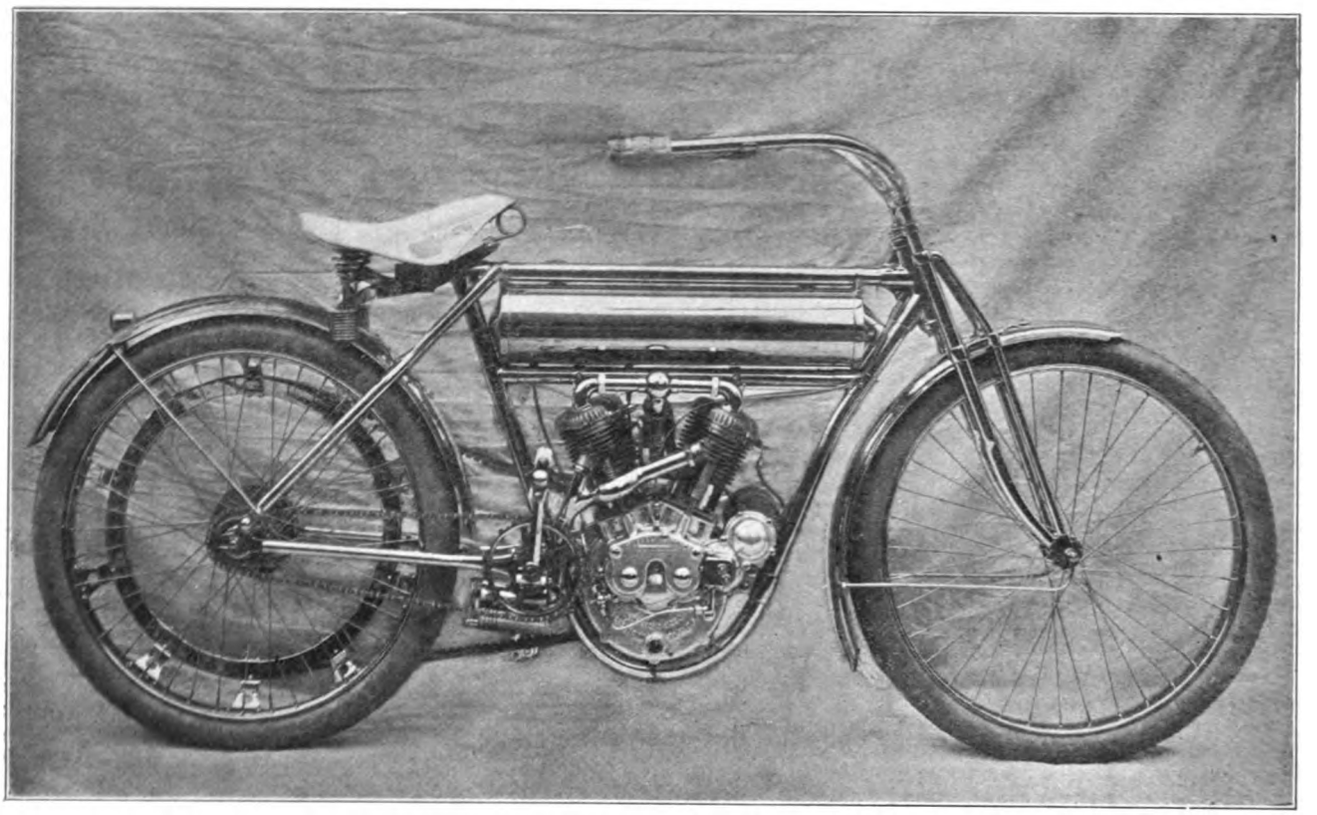
MERKEL-LIGHT 1909 MODELS



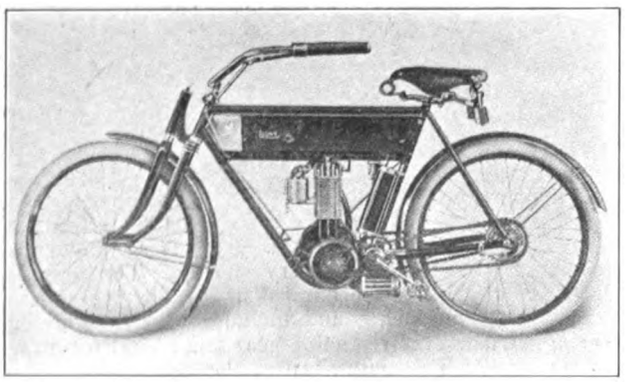
MERKEL, MAGNETO, 3½-H.



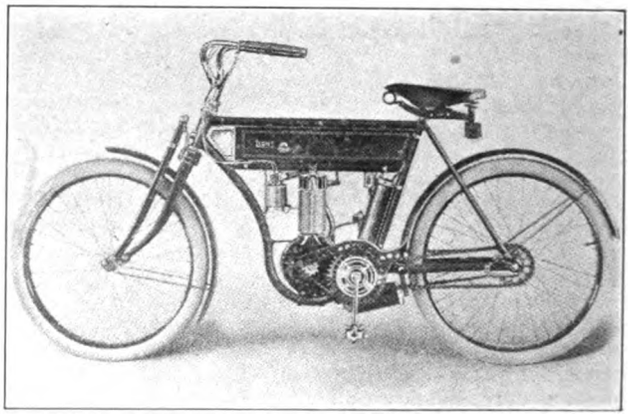
MERKEL, BATTERY, 3½-H.



MERKEL TWIN CYLINDER, 7 H.



LIGHT, BATTERY, 3-3½-H.



LIGHT, BATTERY 2¼-2¾-H.

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MERKEL-LIGHT TECHNICALITIES

FRAME construction on the Merkel remains the same, being a continuation of the spring frame loop design, stiffened by a truss-bar over the motor, to which the latter is fastened. The frame is nineteen inches in height, and allows a low riding position. The spring fork and spring frame hinged at the center deserve special attention. The front forks proper are extended upwards, parallel with the head, meeting the two girder extensions, these two forks being brazed together. In the first fork two helical eight inch springs are fitted with guides thereto, and on top are two two inch recoil springs. All the mechanism for these spring forks is internal, and thus the general appearance is very much like the ordinary girder fork. The crown of the machine is carried upon these springs, the recoil springs preventing the plunger rods actuating too far, and thus giving an easy springing motion in a vertical direction. This spring truss fork, it will be seen, is an entirely new triple construction design, an absolute unit with the front wheel that ensures rigidity in steering. The rear springs are unique in design and can be described as follows: the rear stays are of strong tubular construction and contain coil springs fourteen inches long, over which guides are fitted. To the main frame a lug carrying a stud is brazed, immediately below the saddle mast joint. This stud is fixed to the guides mentioned above, which slide in the rear stays, and are supported by the fourteen inch strong springs. The back of the frame practically works on a hinge, which is situated just behind the hanger bracket, this hinge being of great strength and so arranged as to take a strain "edgeways." This hinge works on a phosphor bronze bushing, a fact which shows considerable forethought on the part of the manufacturers.

The mudguards are of ample dimensions, being three and one-half inches wide. The wheels are twenty-eight inches, are fitted with two and one-half inch tires, with thirty-six spokes front and rear, and single clinch rims. The handlebars, it must be noted, are fastened rigidly by substantial gland nuts, instead of the old style clamp. The control is by Merkel patent leverless double grip, no rods or levers being on the outside of the handlebar. This gives the machine great neatness in appearance. The method of operation of this handlebar control is ingenious in the extreme. The twist of the grip operates a worm, to which a small tube is fixed, inside of which a No. 19 piano wire runs to the various bases of operation. The exhaust lift as fitted to the handlebar is of specially good design; the lever when operated sets in the "valve lifted" position until released by the rider. An improved automatic compensating carbureter is fitted.

The main point of interest, technically, is without doubt, the engine. This was tested during the whole of 1908 on the old models and has proved most efficient. The cylinder and head are cast integral, and the crank case on the new gear-driven magneto model is of very attractive design. The fly-wheels and shafts are forged in one piece. Automatic intake valves of large area are fitted in a very accessible position. These intake valves have an exceedingly ingenious plunger, which is fitted for the purpose of "unsticking" the valve. The size of the engine, which is rated at 3½-h., is three and one-quarter inch bore by three and one-third inch stroke. The twin cylinder is of 7-h., practically double these dimensions, and is marketed with magneto ignition only. There are also two special models for speed enthusiasts, and they are built exceedingly light.

The size of the main crank-shaft ball-bearing is B-30, and it will be noted that this is an exceedingly substantial size and should wear for a long period. On the magneto model, the magneto practically forms part of the crank case, and is securely bolted thereto. The magneto, the new Herz, is gear-driven, gears enclosed in an oil tight case. All gears in the Merkel machine have bearings on both ends. The muffler is of improved design, is very efficient and silent, and is fitted with a cut-out operated by the foot. A mechanical oiler of unique design is specially worthy of notice. This oiler is fitted forward of the crank case, being very securely fixed, and is operated in a most ingenious manner by a lever which has a lifting action from the exhaust cam, and the end of this lever engages with the teeth of a ratchet wheel fitted in the center of the oiler. This ratchet wheel has forty-eight teeth, and the lever operates it by pushing it around, one tooth at a time, every time the exhaust cam raises the valve. It is so arranged that there is very little in its mechanism to get out of order. The oil pipe runs direct from the oil tank to this oiler, but on passing the forward end of the crank case a small by-pass is fitted so as to drain a certain amount of oil, as required, directly into the crank case. A glass fronted inspection window, with heavy glass, is fitted in the side of the crank case. The mechanical force feed oil-pump is entirely enclosed in the secondary housing, and is geared to pump a positive amount of oil into the crank case every ninety-six revolutions of the motor, regardless of its speed. The quantity of the flow of oil can be adjusted by means of a set screw to a greater or less volume as required. Thus it will be seen that all the rider has to do is to keep the supply tank full, the adjusting screw set for the right quantity, and the pump does the rest.

The transmission of the Merkel motor is by a twenty-eight degree V belt, with adjustable front pulley made in two halves, affording a variation of gear from five to one to four to one. The outside flange of this pulley screws up on a thread, and thus the groove is made smaller or larger as the rider desires. The tanks are made of larger capacity than formerly, are strong and neat in appearance, and are made of seamless brass tube with cast brass ends riveted and brazed. The capacity of the gasoline tank is two gallons, and of the lubricating tank about three pints. A gauze filter, running to the carbureter, is provided just over the gasoline outlet pipe. This gauze is adjustable for cleaning purposes. The gasoline filler caps are of large size. On the handsome twin cylinder model staged another form of plunger for depressing the inlet valve is used, this being a very handy fitment.

The Light motorcycle, exhibited by the same company, has a loop frame, with double top truss bar, the motor being clamped vertically in the loop and attached at the cylinder head to the truss bar. The forks are of special cushion design. The engine fitted to the Light is the well known Thor, the power rating in one model being 2¼-2¾-h., and in the other single model 3-3½-h. Battery ignition is fitted, consisting of three batteries and Splitdorf four terminal coil. A substantial muffler is fitted. Larger sized valves and intake and exhaust pipes are also used. The lubrication is by splash system, with a special sight-feed oiler fitted with a device for adjusting the flow. The transmission is by five-eighth inch roller chain, with compensating and yielding sprockets, eliminating all jerky motion in the drive of the machine. A neat chain guard is fitted over the forward chain. The tanks are so devised as to answer the three purposes of carrying the gasoline, oil and batteries, the gasoline capacity being five quarts and the lubricating oil tank holding one quart. The construction of the motor is so well known that it can be dealt with very shortly. The base and transmission are one mechanical unit. The transmission is practically one-piece, and includes in itself the ball-bearing surfaces, the reduction gear and means for attaching sprockets. The main shaft of the motor runs on roller bearings, and it is noticed that all the other bearings are of large dimensions.

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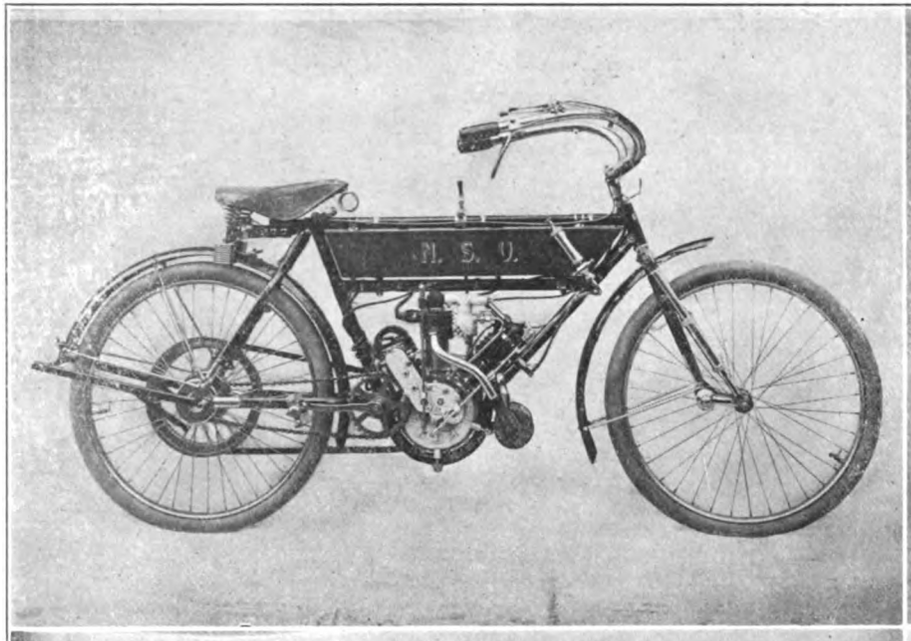
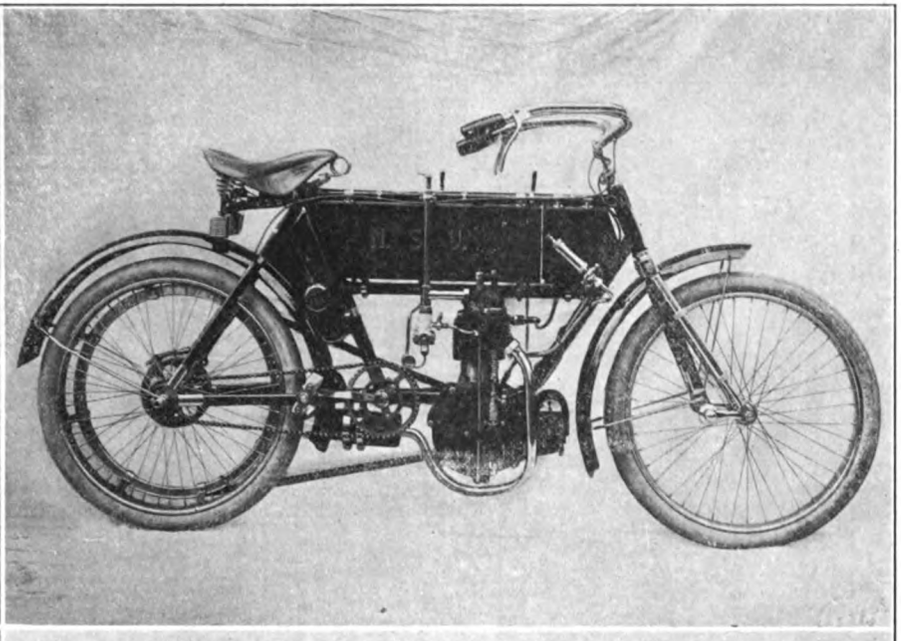
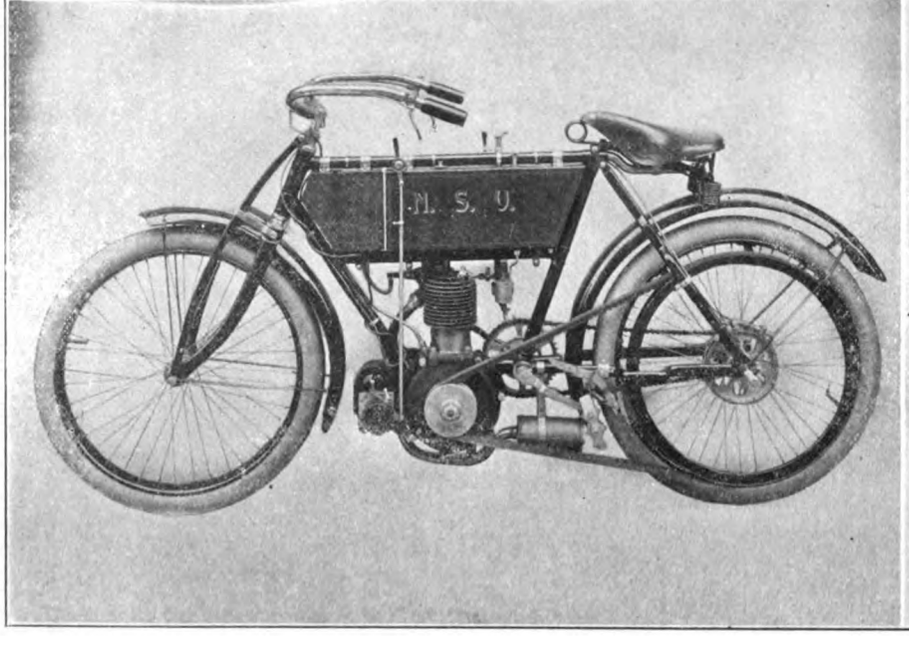
N. S. U. 3-H. TWIN ROADSTER.

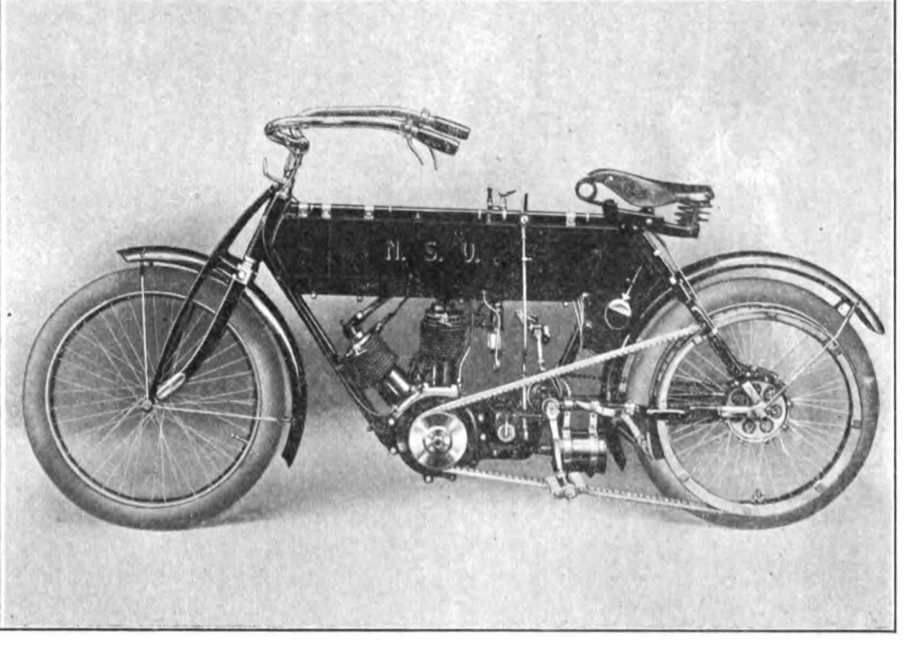


N. S. U. STANDARD 3½-H. TOURING MODEL WITH SPRING FORKS.





N. S. U. 3¾-H. F. A. M. ENDURANCE MODEL.



N. S. U. 6-H. TWIN STANDARD TOURING MODEL.

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DETAILS OF N. S. U. CONSTRUCTION

OF greatest interest at the booth of the N. S. U. Motor Company was the new twin cylinder lightweight machine, catalogued as the "Twin Roadster." This machine weighs only 100 pounds, and on account of the cute twin engine and the reducing gear on the engine shaft, it was always the center of an interested throng. The engine is rated at 3-h. It has a bore and stroke of fifty-two by seventy-four mm., mechanically operated inlet valves, and the usual N. S. U. gear driven magneto (Bosch). Handlebar control is fitted, of the automobile type. That is, two levers are placed on the right hand side of the bar; these regulate the amount of throttle and the auxiliary air by means of Bowden wires. The spark is set; there is no means of retarding or advancing it. This in itself is a novelty. Of course, the spark can be cut off from the grip, and this is accomplished in the usual twist of the wrist manner. The wheel base is fifty-two inches, and the frame is thirty inches above the ground. Wheels are twenty-six inches, and tires two inches. Spring forks of the plunger type are fitted, as are tubular stands and carriers, as regular equipment. The drive is by three-quarter inch V belt, through means of the geared pulley. Belt tension is regulated from the saddle.

The machines known as the F. A. M. Endurance Models also came in for a considerable share of attention at the N. S. U. booth, and from the indications these will prove very popular during the coming year. These machines are similar in many ways to the familiar touring models as to power plant and equipment. The frames are lower and of slightly lighter construction, and the saddle post is dropped, affording the rider a low and comfortable position. All three of these new models look to be very capable and fast; in fact, the 6-h. twin is said to be good for sixty miles an hour on a straightaway. There was shown also one of the twin cylinder "Model de Luxe" machines. This had the same stock 6-h. engine, with mechanically operated valves, and is intended for the rider who wants a very fast and luxurious touring machine.

A single cylinder 4-h. racing machine was shown. This attracted a great deal of favorable comment. The frame is of special low construction, with a drop saddle post and down turned handlebars. The motor was the same that is fitted to the single De Luxe models. It has a ball bearing engine shaft, extra large fly-wheels, mechanical valves and magneto ignition. The racer looked very speedy, and the same engine in a touring model should make it an exceptionally fast road machine. At the N. S. U. booth were shown also a sidecar attachment and a non-convertible forecar. The sidecar was of the rigid type and very substantially made. The body is coach-built, and is finely uphostered. The mud guard is extra wide, very similar to the automobile style. It was shown attached to one of the 6-h. twin models. The forecar was also built up with one of the 6-h. engines. It was, however, of the non-convertible type, and was fitted with a two-speed gear hub, fan, heavy non-skid tires, stand and luggage carrier, etc. The body was upholstered in the usual tufted leather after the automobile style. In fact, the car was a small automobile. It appealed very strongly to the public. This was shown by the fact that it was sold outright from the floor, and that two other similar cars were ordered for spring delivery.

The two types of two-speed gears shown are very interesting. The engine shaft arrangement that was fitted to many of last year's machines has been considerably altered and improved. The screws and rollers, which gave trouble to those riders who did not make it a rule to tighten the nuts previous to starting on a journey, are discarded entirely, and in their place a substantial bolt is fitted which passes through two extensions of the inner clutch disc and is secured at both ends by a split pin.

THE NEW SIMPLEX

THERE are many interesting technicalities in the Simplex motorcycle which denote most careful forethought both in detail and construction. This motorcycle is of loop frame pattern with double cross bar, the frame being built of one and one-quarter inch, sixteen gauge tubing, and the loop being built of fourteen gauge tubing. The wheel base is fifty-six inches, and the whole design has very graceful lines. The saddle being twenty-nine inches from the ground affords a most comfortable riding position. A flat leaf-spring type of spring fork is fitted. It consists of one ordinary straight fork of very strong construction, which is hinged to two dropped forged plates, these hinge plates being forged with a strengthening web. These are fixed so that the tension can be adjusted by tightening the outside nut, the hinge plate bearing more tightly against the fork blade, a fiber washer being inserted between the two frictional surfaces. The side plates are attached at the forward end to the hub, and a straight rod extension on either side of the wheel to the triple carriage-leaf springs.

The engine is suspended at three points, and is of the well known Peugeot make. Three and one-quarter inch mud guards are fitted, with a splasher to the front guard. The belt rim is drilled with holes for the sake of lightness, and a twenty-eight degree one inch V belt is used for the transmission. The magneto is staged in a very clever manner, two cradle plates extending from the base of the crank chamber to support it. A Bosch D-2 magneto is fitted, the drive being by geared shaft, with bevel gears of very large size, all enclosed in an oil-tight case. The Peugeot motor is rated at 5-h. and has two cylinders of seventy-five by seventy-six milometers. Between the two cylinders, in a vertical position, is fitted the well known Longuemare carbureter, which has proved so successful for many years past in Europe. The tanks are strongly made of brass. The gasoline tank is torpedo shaped and carries two gallons of gasoline. The lubricating tank, which is of cylindrical shape, is fastened to the saddle mast and contains two quarts of oil. A very neat strainer and filter is fitted between the gasoline tank outlet and the carbureter.

The intake valves of both cylinders have external plungers attached. The lubricating pump is of sensible length and capacity. The handlebar control shown is not operated by twisting grip, but by a small lever near the grip, which operates or twists an external sleeve, which in turn operate the rods. A special feature, and one which distinctly deserves mention, is a very substantial internal expansion brake fitted to the hub of the rear wheel. This is operated by a foot pedal. It is of large dimensions, and gives a braking surface of twenty square inches, and should be powerful enough for any emergency. It is simply an adaptation of the most successful automobile brakes, and is entirely enclosed. A very well designed adjustable pulley is shown, consisting of two flanges, the external one sliding upon the collar extension of the inner one, thus varying the depth of the belt groove. A milled lock nut fastens this most securely by screwing over locking keys. To the pedal gear an eccentric bracket of large dimensions is fitted. This machine is worthy of special mention, as in every way it is of first class design and material, and should excel in both speed and reliability.

The Prospect Motor Company also had on view a machine known as the "Allright," which reminds one very much of the Vindec. It has a truss frame, the motor suspended securely by plates at a two point suspension. A strengthening upright tube runs from the back of the motor to the truss bar. The engine is the 5-h. twin cylinder Peugeot, and the ignition is by Bosch magneto.

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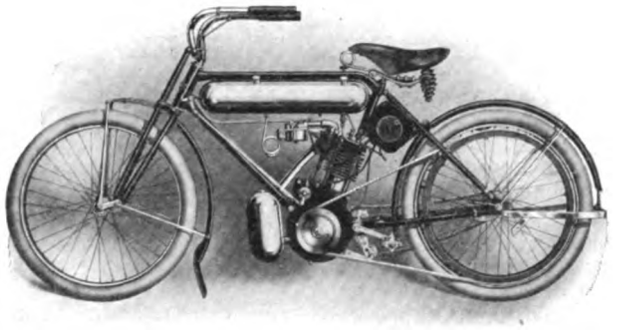
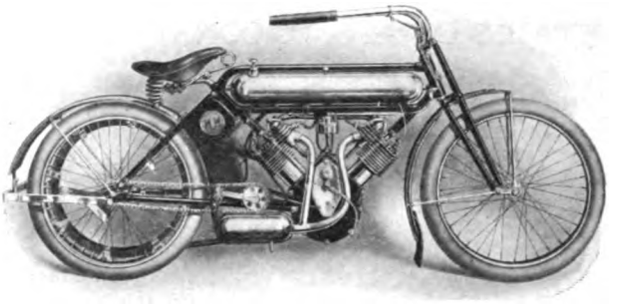


M. M. SPECIAL. BATTERY.



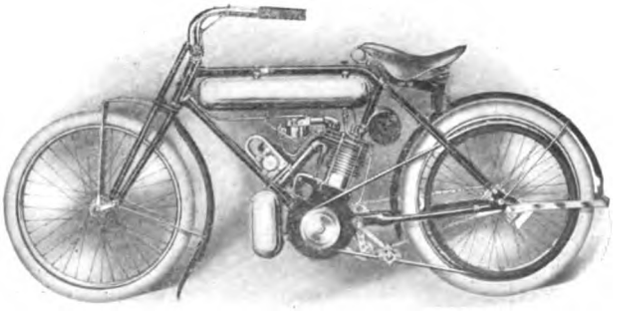
M. M. TWIN. BATTERY.

INTERESTING FEATURES IN THE M.M.

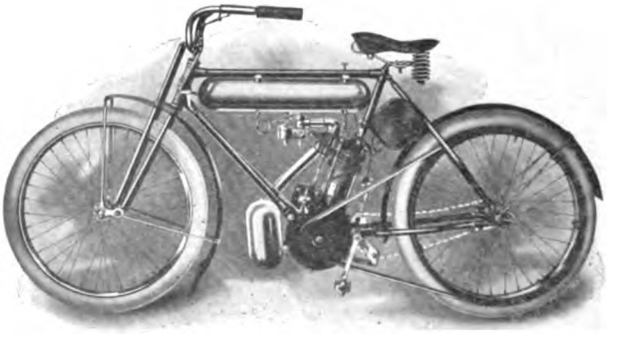
THE frame of the M. M. motorcycle is practically unaltered from last year's pattern, the engine in the single and twin cylinder models still forming an integral part of the frame, the only alteration being an adjustable removable seat mast, which has been built into the singles to facilitate the removal of the cylinder. The models consist of a 3½-h. single, with battery ignition, a 3½-h. with magneto, and the big 7-h. twin. There is also a 3-h. Roadster, which is of strong construction, with frame of the ordinary diamond pattern, as used in bicycle construction. To this model a spring fork is fitted of the usual M. M. leaf spring design. This 3-h. motor has a bore of three and one-quarter and stroke three and one-half inches, the inlet valve being one and three-eighth inches in diameter, and the exhaust one and one-half inches. The wheel base is fifty inches. Twenty-eight inch wheels are fitted with thirty-six spokes in the front and forty in the rear, and two and one-quarter inch tires. This diamond frame is of strong construction, being of seamless one and one-eighth inch tubing, sixteen gauge. Trip control is fitted to this model, this control being on the well known M. M. principle by grips operating bar levers through a bell crank on the frame head. The fuel tank holds five quarts of gasoline, and is made from solid seamless brass tubing. Positive force feed pump lubrication, the pump being located in the oil tank, which forms part of the gasoline tank, is fitted to this model. The gear ratio on this model is five and one-half to one, and the drive is by flat belt.

The 3½-h. M. M. has a bore of three and one-quarter inches and a stroke of three and forty-three sixty-fourths, the inlet and exhaust valves being of the same diameter as the roadster model. This 3½-h. "Special" has a wheel base of fifty-four inches, and the height from the ground to the seat is twenty-nine inches, the frame allowing a low riding position. The wheels are twenty-six inches, and the tires are two and one-quarter inches. The frame is of one and one-eighth inch seamless tubing, sixteen gauge, and the fork of the usual truss pattern with triple flat spring suspension. Flexible grips are fitted, and the control is on the same principle as the roadster model. The lubrication is also the same and the ignition is by three standard size dry cells and a four-terminal spark coil. The gear ratio is five to one. Mud guards are extra wide channel type, detachable at the rear to facilitate tire repairs. A wide leather flap is fitted to the front guards.

The magneto "Special" is of 3½-h, of the same construction and differs little from the battery model except that Bosch high tension magneto, type D A 2 is fitted, this magneto being situated in an inclined position forward of the muffler pipe, and just behind the forward down tube. It is thus in a very secure position. The method of attaching this magneto is unique, a platform being brazed to the bottom tube upon which the magneto machine is bolted. The magneto drive is by chain, which runs in oil in tight aluminum case. The twin cylinder model is, of course, of different construction from the foregoing, in so much that the two cylinders and the crank case form the bottom half of the frame, the bottom tube and saddle mast being attached firmly to the head of each cylinder and the back stays being attached to the crank case. On this model either form of ignition is fitted. The tubing is of one and one-eighth inches in diameter and sixteen gauge, and twenty-six inch wheels with two and one-half inch tires are fitted. The tank holds seven quarts of gasoline. The gear ratio on the twin is four to one. The transmission is optional, and may be either by flat or V belt, this option being also extended to all models except the roadster. In the twin the carbureter is placed midway between the cylinders, and the inlet and exhaust pipes are of large diameter. The M. M. automatic inlet valve, which has already proved so successful, is still retained. A sidecar was shown in the exhibit, the seat being strongly and substantially built of wicker, the sidecar being very well sprung with a roomy basket conveniently fitted at the back of the seat.. The finish of machines was excellent. The tanks and muffler are of nickel plated finish, and are of very smart appearance. The V belt is the well known Shamrock Gloria, which has met with great success in this country and abroad. The flat belt is of the same construction as used in 1908, and its last-



M. M. SPECIAL. MAGNETO.



M. M. ROADSTER.

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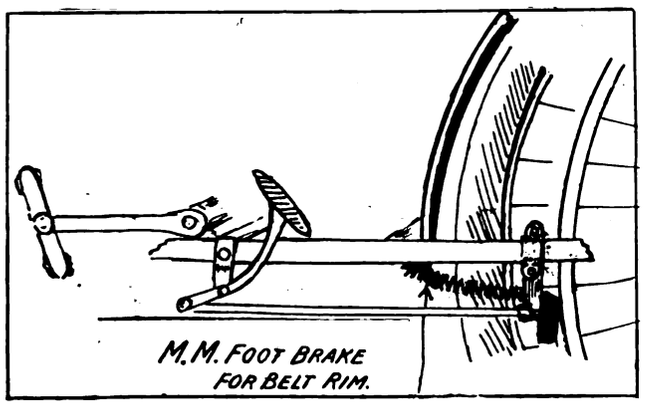
ing qualities have already been proven. Of interest in this exhibit were some very fine sections and working parts of the M. M. machine, one working section of the engine, showing its very sound and solid construction and the domed piston which is now fitted in the standard models. The object of this latter being, of course, more perfect compression and the prevention of large accumulations of carbon deposit on the piston head. Three piston rings are fitted, the bottom one being of greater width than the others.

One of the most clever of the new features shown on the M. M. machines for 1909 is the new seat-post assembly, in which the saddle-post is extended downward, in one piece, to the cylinder head, to which it is bolted. This enables the rider to get at the "innards" of his motor very readily. Briefly, the saddle-post is fitted snugly into a tubular sleeve, or lug, which is threaded internally for a short distance. The base of the post is threaded, and the cylinder head is secured to it in the usual way. The method of detaching the cylinder is extremely simple. First, the saddle-post is loosened in the usual way, then a few turns on the nut at the cylinder head leaves the post free to slide upward, through its sleeve, thus leaving the whole top of the cylinder exposed and readily get-at-able.

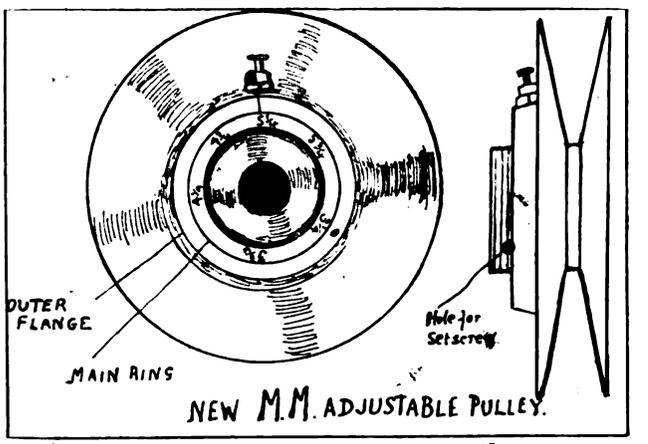
Mention was made in the January 15th issue of MOTORCYCLE ILLUSTRATED of the main points of interest in this machine, such as the well designed spring fork and the center draft carbureter. It is to be noted that accessibility is a great feature of this year's machines. The carbureter is easy to get at, and the whole general trend of the design shows forethought for facility of adjustment. Special mention may be made of the sensible length of the camshaft which, combined with the high quality of the material, should mean long life to this important part. The big "twins" with their cylinders set at ninety degrees appeal strongly to the speed enthusiast. The Company claims that by this construction practically all vibration from the power plant is eliminated.

On all twin machines is fitted a very powerful and efficient foot brake. This is operated by a foot plate fitted on the left end of the pedal of the crank hanger. This foot plate is attached to a lever which operates a bell crank, bolted to a cross stay running beneath the crank hanger bracket. At the end of this crank is hinged a substantial eight inch steel rod, which operates the brake shoe, which makes frictional contact inside the belt rim.

An excellent example of adjustable pulley was shown by this Company. This pulley is made in two parts. The internal flange continuing outward in a substantial ring, over which the external adjustable flange is fitted. This flange has on the outside a milled stud, which engages with holes cut in the continuation ring from the inner flange. The outer flange slides over the top of this continuation ring, which is marked on the outside with the different gear ratios, varying from five and three-quarters to one to three and one-quarter to one. All that is necessary for the rider to do is to unscrew the stud and slide this outside flange to the gear desired, by merely twisting it. Of course it will be necessary to tension the belt. A side elevation sketch and an end view of this pulley is shown.



M.M. FOOT BRAKE FOR BELT RIM.



NEW M.M. ADJUSTABLE PULLEY.

IMPROVEMENTS SHOWN IN THE CROUCH

THIS motorcycle has a twenty-one inch truss frame, built of fourteen gauge material. A new spring fork is fitted, which may be described as follows: Two extensions are fixed on the ordinary fork crown and are used as a guide for the auxiliary fork-rods to slide in. Attached to these auxiliary fork rods are drop forged side plates, or hinges, with bronze bushings. Running parallel with the head is a tubular plunger, which is one inch in diameter, containing a six inch strong helical spring. This spring is fixed to the plunger, which in turn is attached to the head cap. The wheels fitted to this machine were noticeable in that they were of odd sizes, a twenty-six inch front wheel being fitted and a twenty-eight inch rear wheel, both with two and one-quarter inch tires. The front wheel is built up with thirty-six spokes and the rear with forty. Substantial four inch mud guards are also in the standard equipment. Grip control on the carbureter alone is used, from the right hand grip. This grip control is on the Helix sleeve principle, with a Bowden wire running to the carbureter. The ignition lever is fitted to a collar brazed at the side of the tank.

The engine is 3-h., being three and three-thirty-seconds bore by three inches stroke. The cylinder and head are cast in one piece, thus eliminating the use of gaskets. The piston has three rings, and it may be noted that these rings are pinned for the purpose of holding them in place, and one ring is so arranged as to act as a stay to the wrist-pin. Also, it was noticed that holes were bored in the sides of the piston and round its circumference for the purpose of freer flow of lubricating oil, and also to obtain a lighter piston. New Departure ball bearings are fitted to the crank shaft. The ignition is either by battery or Bosch magneto, at the option of the purchaser. A Schebler carbureter is fitted to these machines. The gas tank is of large dimensions, its capacity being seven quarts. The capacity of lubricating oil tank is one quart, and the round tank further contains the batteries and the coil. Force feed lubrication is used. The transmission is by flat leather belt of strong construction, one and one-half inches in width, and a belt tensioner with a spring idler, operated by a lever which works on a quadrant, is fitted.

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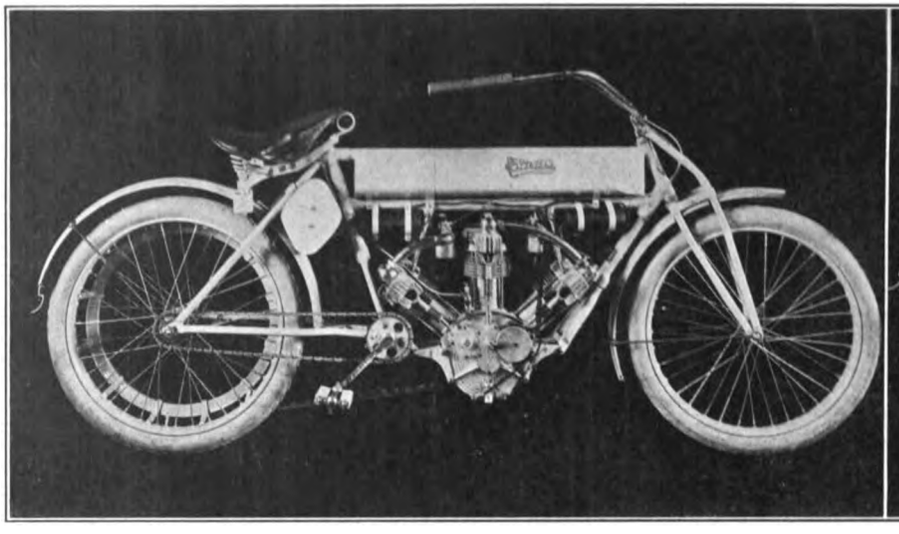
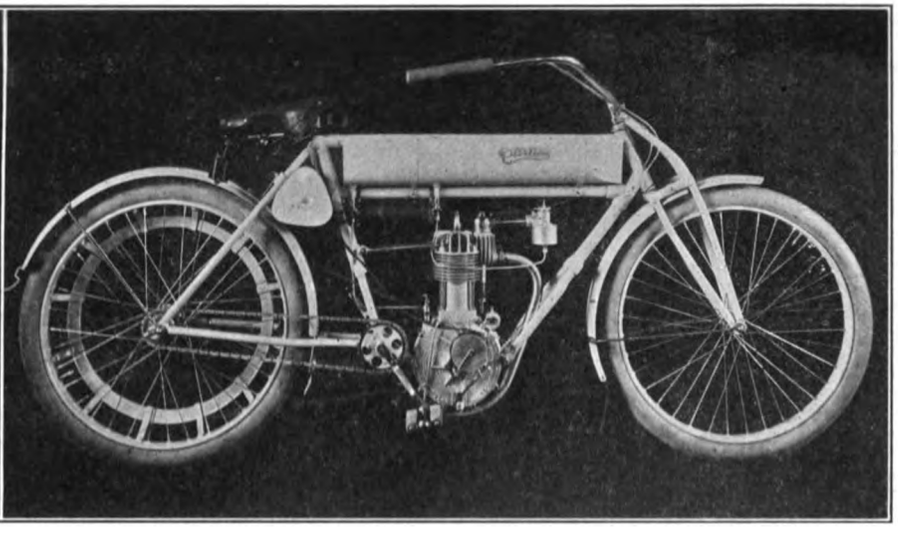
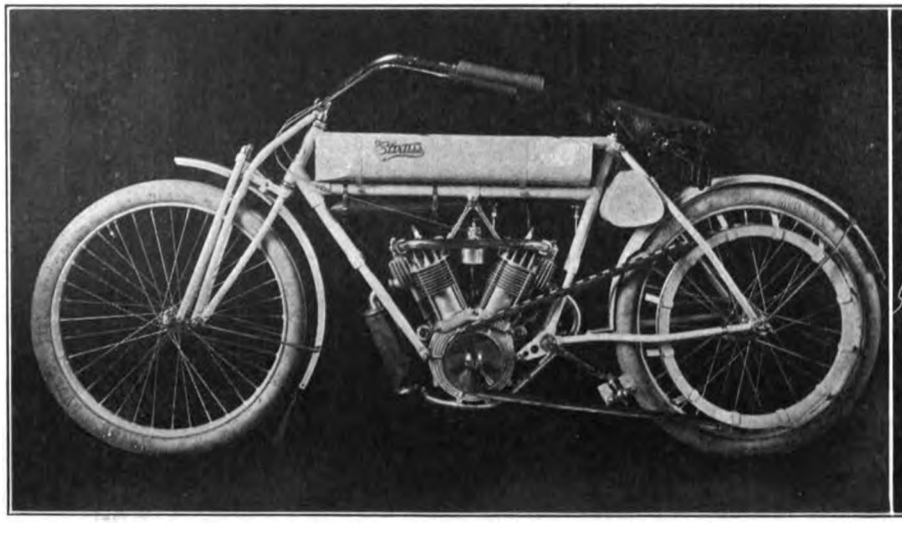
FOUR NEW CURTISS MODELS



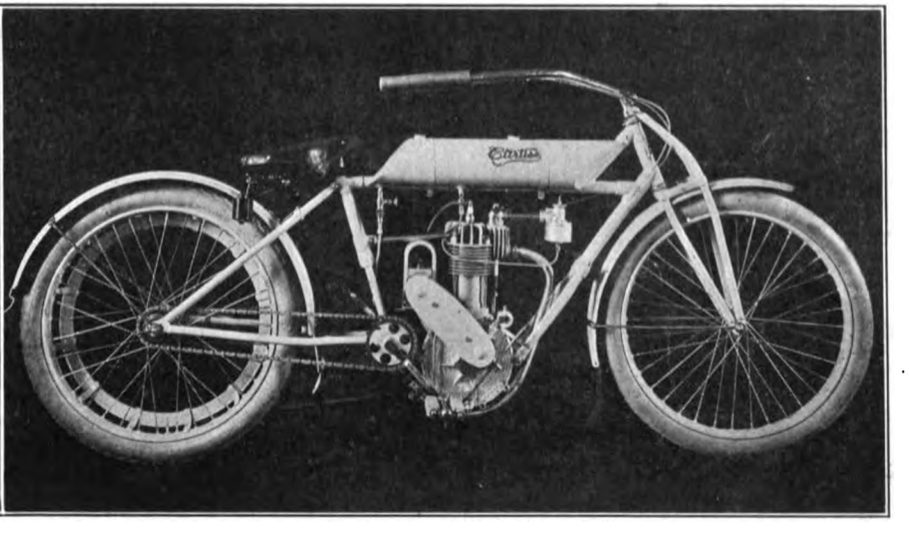
3 CYLINDER, 10-12-H. BATTERY IGNITION. TWO CARBURETERS.



SINGLE CYLINDER, 3-H. BATTERY IGNITION.



TWIN CYLINDER, 6-H. BATTERY IGNITION.



"WEHMAN" MODEL, 3½-H. MAGNETO IGNITION.

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MANY NOVELTIES IN CURTISS MACHINES

THIS motorcycle is of very fine trussed frame construction. The frame is composed throughout of straight tubing, this tubing being of special fourteen gauge heavy Shelby seamless tube, which is very strongly reinforced at every joint. The frame has the truss bar running from the saddle mast to the bottom head lug, between which the tanks are carried. The bottom tube, about one-third the way down, has a drop forged lug running into a Y projection to the two sides of which run tubes which are attached to the crank case by heavy bolts. The construction of the rear frame is the same, the Y being attached firmly again to the back portion of the crank case. This truss construction is very strong, and the whole machine is built of one and one-quarter inch tubing. Strong girder forks were fitted as a standard on most of the models shown, a spring fork being optional with the purchaser. The handlebars are of special design, V shaped, and are very strongly reinforced. They are fixed securely by both expander and compression clamps, and are fitted with long "Rough-rider" grips. The gasoline tank on all models is composed of heavy block stampings, and is exceptionally strong and durable.

The girder fork mentioned is stayed with a very strong tie at the fork crown. The Curtiss spring fork was also shown in the exhibit, and is of very sound construction throughout. It consists briefly of a girder fork which runs down to two drop-forged side plates, or hinges, which have steel bushings fitted throughout. The ends of these side plates carry the hub. In the center are fixed the auxiliary fork tubes, which run on either side of the wheel, continuing upwards to the fork crown where bridged hinge plates are fixed. These hinge plates are attached to the center of the girder stay, are of specially strong construction, and end in a connecting link which is fixed to the plungers on either side. These plungers work inside the auxiliary forks, the springs being extra strong and about fourteen inches in length. Short recoil springs are fitted to the top of this auxiliary fork.

The engines fitted to the 1909 Curtiss motorcycles are as follows: 3-h. with three and one-quarter inch bore by three and one-quarter inch stroke; 6-h. twin cylinder, three and one-quarter inches by three and one-quarter inches, and 10-h., three cylinder. There are also two special racing models; one a 7-h. twin cylinder of sixty-one cubic inches measurement, and the other a single cylinder 3½-h. of thirty and one-half cubic inches capacity. All these engines have roller bearings fitted throughout.

The gear ratios of the standard single models are four and one-half to one, in the twin cylinder three and one-half to one, and in the three cylinder three to one. The single has two extra brace stays running from a lug in the saddle mast and attached to two of the top cylinder head-bolts on either side; these running parallel with the truss tube. The twin has an inverted V stay running from the truss tube downward to either cylinder head. The three cylinder motor is stayed to a lug on the truss bar on both forward and rear cylinder, and it was noticed that this engine was fitted in extra strong drop forged cradles which were attached to the crank case. The racing machine had also girder stays, and the twin cylinder racing motorcycle staged had a dropped top bar with a triangulated strengthener in the front. The height of the frame is twenty-two inches, with an option in the 3-h. single and 6-h. twin of seventeen inches, and in the three-cylinder model of twenty-inches. The wheel base on all the machines is extra long, being fifty-eight inches in all models except the three cylinder, which is sixty inches. This should provide very comfortable riding and great stability, especially on the seventeen inch, or "Wehman" models. The weight is exceptionally low, considering the power of the machines. The weight of the single is 125 pounds, and the twin 150 pounds, the three-cylinder being 175 pounds. Twenty-eight inch wheels are standard, with an option of twenty-six inches. The wheels are extra strong and are fitted with thirty-six spokes both front and rear.

The cylinder heads are cast separate from the cylinder and are attached in the usual Curtiss manner. A new wrist-pin is used; this is securely fastened in the head of the piston, thus eliminating the risk of displacement. A fine example of the twin cylinder connecting rod was shown, this being made of specially hardened and ground material, and having phosphor bronze bushings. The circuit-breaker is now fixed on the crank case; the cam operates a trembler blade on the make and break principle, which practice gives a very fast running engine. An adjustment is provided for the platinum points. A very long exhaust pipe is carried and stayed underneath the engine, ending in a thoroughly efficient muffler which has a projector of funnel shape at the rear end. The float feed carbureter has an adjustable needle valve, which should be of great service to the rider, and a neat milled collar for variation of the air intake. A neat, detachable and easily cleaned gauze filter is fitted on the gasoline outlets.

The transmission of the machine is by a tweny-eight degree belt of very fine construction, made by the Curtiss Company, which has been well tested on previous models. It is of three-ply construction. On the twin cylinder a one and one-eighth inch belt is fitted, and on the single cylinder a one-inch belt is used, and it was noticed that the belt rim was stayed very securely by ties directly fixed to the rim. A foot operated cut-out is fitted to the muffler. The exhaust valves are very well designed, having large cast iron heads and steel stems, which are specially hardened and ground. The intake valve, with a 30 degree seat, is on the automatic principle, and is turned from solid bar steel. The control is on the double grip principle operating Helix sleeves. The right grip operates spark and compression release, and the left grip operates the throttle. Lubrication is especially well provided for, and is of the positive sight feed type, which should give very little or no trouble. The capacity of the gasoline tank is two gallons, and of the lubricating tank two quarts.

The ignition on the single is by battery—three-standard dry cells being carried in a strong case which is attached to the rear of the saddle mast. Magneto ignition is fitted to all models at the option of the purchaser. On the single, twin and three cylinder machines two and one-half inch tires are used exclusively. The pulleys are of fine construction, the front one being of specially hardened steel and the rear one of brazed steel of Curtiss design, electrically welded. The coaster brake fitted is of the new Eclipse make, and is of very large braking service. Where magnetos are fitted they are driven by roller chains enclosed in an oil tight case. The three-cylinder model as staged is a very fine piece of designing, and it should be a very powerful machine for side-car work. Two carbureters are fitted to this model, with usual adjustment of the air supply. As mentioned before, these are on the float-feed center draft principle. The radiating flanges in this machine were drilled with holes for the sake of lightness and for more perfect cooling. Ignition is by battery, four cells being used with three coils, one for each cylinder. This model was fitted with girder forks of special construction. Spark plugs in all models are placed in the center of the cylinder head. The three cylinder engine is also of the Curtiss ball bearing type. The gasoline capacity is the same as in the other models. A single feed outlet pipe for gasoline is used in the shape of an inverted T piece, the two sidearms of the T supplying each carbureter. The supply pipe has a detachable gauze filter.

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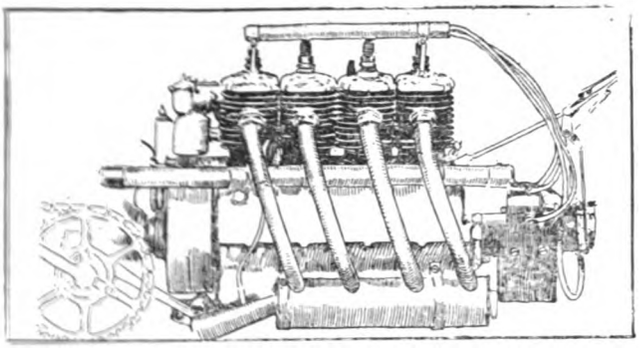
TECHNICAL DETAILS OF THE PIERCE

THIS machine shows a sound and very original construction. Its lines are very pleasing, and the engine and drive follow in a great degree the accepted construction in automobile work. The frame is constructed of large diameter tubes, the principal tubes being three



THE PIERCE ENGINE.

and one-third inch diameter, made of eighteen gauge material, the motor support and right lower rear fork being one inch in diameter and sixteen gauge. On the driving side the construction is stronger, the rear fork being one and one-sixteenth inches in diameter by thirteen gauge, and upper rear forks seven-eighths inches in diameter by sixteen gauge. This method of building the frame gives great strength and stability and it seems scientifically correct. It looks as if it would be impossible for the frame to buckle or get out of alignment, and this is just the point of advantage claimed by the Pierce Company for their method of construction. These large tubes are furthermore utilized as gasoline and oil tanks, which tends to give the machine a neat and compact appearance, and, furthermore, economizes space to a large degree. The top and rear upright tubes are used to contain the gasoline, the capacity being seven quarts—much more than one would suppose at a casual glance.

The front tube contains the lubricating oil, and the capacity of this container is five pints. Notice is directed to the fact that these tube-tanks are copper plated on the inside, which shows much forethought on the part of the manufacturers. The spring fork is excellently designed.

The main fork, which supports the weight, is of very strong construction, and of the accepted triple-crown type. The ends of this fork are attached to the end of the shock absorbing fork by means of two steel side plates or links. In these a clever notion is carried out, for ball bearings are fitted at either end of the side plates. This should give very free vertical movement. The shock absorbing fork is fitted into a cushion-cartridge or tube, with strong internal helical spring and a recoil spring of shorter length. The rear mud guard is hinged for facility of tire repair, or for the removal of the back wheel, which is fitted with a detachable axle. The front wheel hub is similarly fitted. The wheel base is very long, being sixty inches, and the wheels are twenty-eight inches in diameter, with two and one-half inch tires fitted. Grip control by Bowden wire mechanism is used, the right hand grip being fitted with a neat spark cut-out which operates just before the exhaust valves are raised. The cylinders are cast singly, and are of two and three-eighths inches bore by two and one-quarter inches stroke. The castings are very clean examples of workmanship, and the radiating flanges are exceedingly thin, which should materially help cooling. The pistons are fitted with three rings all at the top, and are made of gray iron. The crank shaft is made of nickel steel. Forethought towards securing long wearing qualities is shown by the fact that the main bearings are seven-enghths inches in diameter and one and three-eighths inches long. The connecting rod bearings are one and three-sixteenths inches long, and these bearings run in phosphor bronze bushings. The cam shafts are made in one piece. All four exhaust pipes run into an efficient muffler fitted under the base of the engine.

The mechanical lubrication deserves notice. An oil pump is situated at the forward end of the crank case, and is operated by an enclosed gear drive from the shaft. This forces the oil directly to the bearings and "feeds" just the amount required. Thus it will be seen that one cannot either give the engine too much oil or too little, as the work is done mechanically. The Bosch magneto is bolted very securely to the fore part of the crank case. The driving mechanism is especially good. The disc-clutch, attached directly to the motor, drives the jack-shaft-pinion, which meshes with a gear on the front of the long shaft which runs inside the left lower fork tube. This shaft is fitted with a bevel pinion at the end, which in turn meshes with a bevel gear on the rear hub. All driving gears run in ball bearings. The gear of this machine is five to one. It may be mentioned that all shafts and gears are well protected and enclosed. The clutch is on the disc principle, with two bronze plates and one steel plate, these being about four inches in diameter. A very fine rear drum brake is shown on one of the models. The drum, which is a small wheel, is attached to the rear hub on the right hand side, and looks at least eight inches in diameter. It is in the form of a spoke wheel. It has a very large frictional surface, and the brake band is "held off" by a substantial spring. A coaster brake is also fitted. The practice of carrying two brakes on a motorcycle is one which should be universally adopted.

NEW YALE SHOWS GREAT IMPROVEMENT

THE frame of the new Yale is of diamond pattern, with a slight curve in the bottom tube. The tubing is of strong construction, 1⅛ inch diameter, 16 gauge seamless tubing, with extra liners throughout fitted to every joint. The connections are made from drop forgings, strongly reinforced, and the rear fork ends are forged. The wheel base is 53¼ inches and the engine is supported vertically in two "cradles" fore and aft. A spring fork is fitted, the spring being a very strong single leaf on top of the girder extension, which is joined at the base to the main fork by substantial side plates. Recoil springs are fitted inside the extra fork and guides are used so that the fork gives in a vertical direction only. Wide three inch mudguards are fitted, and 28-inch wheels with 2½ inch tires are used on all models.

The engine is a 3½-h. The bore is 3 5-32 inches by 3 11-16 inches stroke. The enclosed fly-wheels are thirty-one pounds in weight. The piston has three rings. A small circular glass oil sight is located on the right hand side of the crank case. Lubrication is by splash system and oil is furnished by a hand pump. Battery ignition is used, the commutator being attached to the main bearing. Grip control is fitted to all models. The battery box is placed underneath the saddle. Coil is securely fastened to the seat post mast below the battery box. Transmission is by flat belt and adjustment is provided for by moving the back wheel. The capacity of the gasoline tank is 1½ gallons and that of oil tank two quarts.

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THE ROYAL PIONEER

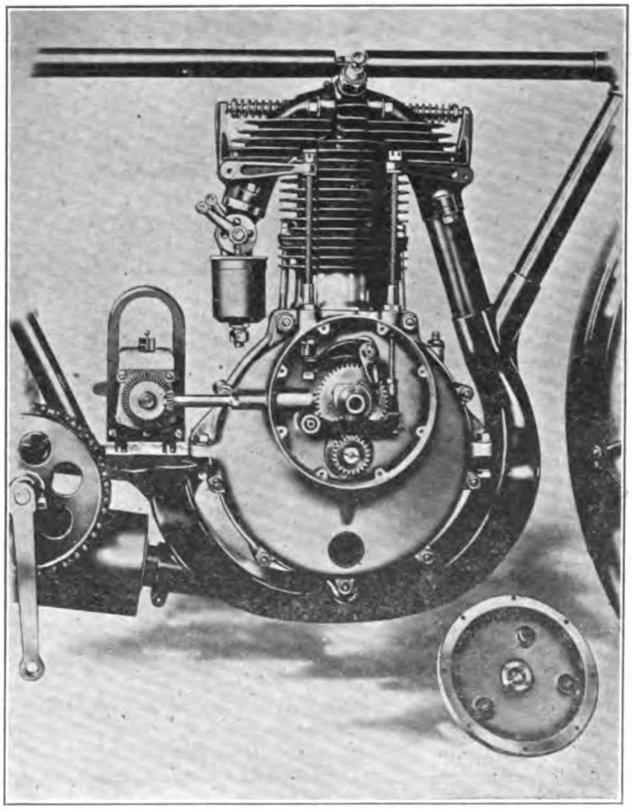
THE illustration herewith shows the Pioneer engine. This machine was described in our issue of January 15, but on closer examination many additional interesting technicalities are noticed. The construction of this machine is very much out of the ordinary. Valves, which are located in the head, are so devised that warping due to overheating should be practically eliminated. The two valves are absolutely interchangeable, both being mechanically operated from a single cam, as can be observed from the illustration, which shows the cam and gears exposed. The Royal Motor Company claims that the exhaust valve is not subject to retardation at any point. The outside diameter of these valves is one and five-eighths inches, and a particularly good form of construction was noticed in that the valves have nickel steel heads, which are electrically welded to the stems. The exhaust passage and ports throughout are of such dimensions as to easily take care of the large valves, and the constructors have carefully avoided making any sharp bends in the exhaust pipe. This has a very large expansion chamber and a large and efficient muffler, which should be very silent.

The specially hardened gear shaft cam, which has liberal dimensions, operates the cam levers. The rods, instead of being the accepted type of push rods, operate by pulling, the claim being that there is no chance of buckling as they are under tension. To these rods are fitted compression springs, which make for the quick operation of the valve. It is stated that this motor can be accelerated 4,000 revolutions per minute, which is certainly a very high speed for an engine to run. It will be noticed that the cam actuates near the hinge end of the exhaust cam lever, and this should provide a combination of easy, yet quick action in opening the exhaust valve. It was noticed that all bearings are of very liberal dimensions, the main bearing being a Hess-Bright ball bearing, the others being carefully hardened ground steel running in Parsons white brass die-cast bushings. A centrifugal oiling system is used, the oil being led over all the bearings, and in addition to this splash lubrication is employed. The piston shown at the booth denotes very careful workmanship and forethought. The principle of the internal construction of the piston is the casting of a sort of pocket-shaped shelf for the purpose of collecting and retaining the oil. Through the walls of the piston, from this pocket to the outside, are drilled holes which allow the oil to percolate through, and thus the top portion of the piston and the cylinder head are thoroughly lubricated. One-quarter inch piston rings are fitted, and these have step cut joints.

The cylinder is ground internally, and the grinding of the piston and rings is specially attended to. The lubrication is by force pump. The spark plug is located, as can be seen, in the center and at the top of the dome of the cylinder head. The Royal Motor Company claim that this position ensures the firing of a more powerful mixture, as the plug is situated immediately over the inlet valve and the incoming charge impinges, in this design, directly against the exhaust valve. The claim, in consequence of this, is that the exhaust valve is kept much cooler thereby. An inspection window with glass fitted is provided at the base of the crank chamber, so that the rider can see that he has the correct level of oil. The crank hanger and bracket are of specially good design. The whole bracket can be slid and locked on the back stays for the purpose of general adjustment, and although usually fitted below the stays it can be changed to a position above the stays so as to heighten the frame or shorten the reach, as the case may be. Also the crank hanger bracket and chain can be dispensed with entirely should the rider wish.

The motor is supported by a three-point suspension, and also at the top of the cylinder, and is thus braced against the belt pull, owing to the depth of the loop. The crank case is fastened by eye bolts directly onto the lugs on the cylinder. Very large fly-wheels are provided. They are nine and one-eighth inches in diameter and twenty-two pounds in weight, the weight being contained almost entirely in the rim. They are of the combined "web and spoke" type, and are mounted, as mentioned previously, on Hess Bright bearings. These fly-wheels in connection with the large mechanically operated valves, should make toward a most flexible engine. Unlike most machines the bore is larger than the stroke. The bore is three and one-third inches, and the stroke three seventeen-hundredths, which brings this machine just within the thirty and one-half cubic inch class.

As can be seen by the illustration, the magneto is most securely stayed. It is of Bosch manufacture, and is driven by a close coupled short double gear shaft, which bears in the casting of the crank case. The spring fork has been described briefly, but mention of several points can be made. The springs are contained in a large diameter steel tube running parallel with the head, and this tube has on the top a milled cap, which can be unscrewed for the purpose of getting at the spring. There are three springs, with a total length of twenty-four inches; these springs being fitted concentric one with another, the larger spring being the recoil spring. These springs are of such length and quality as to make the fork very smooth in action, and to afford no possibility of any spring breakage. The side hinges are also of novel pattern, duplex steel plates being employed in their construction instead of the usual drop forgings. These steel plates are fitted with hardened steel bushings at the moving hinge joints.



ENGINE OF THE ROYAL PIONEER.

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UNCLE SAM USING MOTORCYCLES

Fourth Assistant Postmaster-General Sets Forth To What Extent Self-Propelled Machines Overcome Some of the Problems of Rural Free Delivery System

ONE of the most important branches of the Post Office Department is the R. F. D. (rural free delivery). It is in this field of mail service that the most arduous work is done, particularly in the winter months. The routes are long, often over miserable roads and hilly country, and the problem of transporting the mails under such conditions has agitated the minds of the postal officials for many years.

Until recently, practically the only method of transportation was by horse and buggy, although the bicycle has also done good service. Of late, however, the motorcycle has been tried in many places, not always with complete success, though the machine has done so well as to offer the prospect of entirely satisfactory service in the near future, and to justify the prediction that the motorcycle will ultimately supplant every other method of carrying the mails over the thousands of rural free delivery routes throughout the United States.

The following letter, written by the Fourth Assistant Postmaster-General, in answer to inquiries made by MOTORCYCLE ILLUSTRATED, supplies some interesting details regarding the number of machines in use at the present time, and the class of service rendered:

"MOTORCYCLE PUBLISHING COMPANY,

"299 Broadway, New York, N. Y.

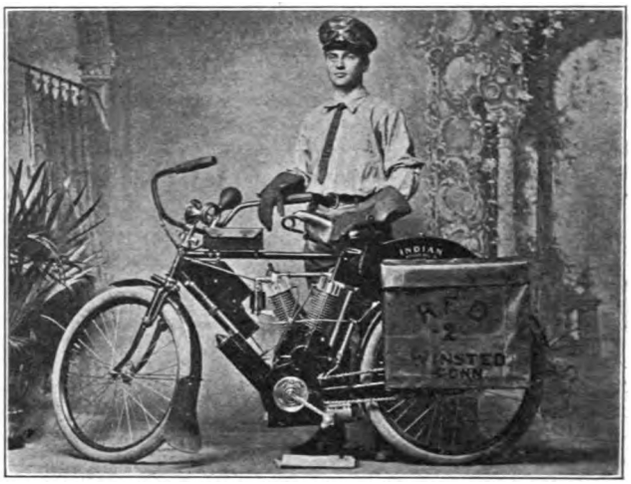
"Gentlemen: In reply to your letter of recent date, which the Postmaster-General has referred to me, in which you call attention to the utility of motorcycles by rural letter carriers in serving their routes, and expressing the opinion that the time will come when motorcycles, either bi or tricars, will be universally employed by rural carriers, you are informed that rural carriers who desire to use motorcycles or automobiles must provide them at their own expense. Carriers are only permitted to use motor vehicles where the condition of the roads and the topography of the country render practicable their uninterrupted use for an extended period of, say, from six to nine months.

"Recent reports received by the Department show that the total number of motorcycles in use by rural carriers throughout the United States is 312. The reports also indicate that during such times as the conditions will permit carriers to use motorcycles they can serve their routes with much greater expedition than when ordinary vehicles are used, yet the service rendered is not altogether satisfactory, due to the fact that muddy roads, swollen streams, tire troubles, mechanism becoming disordered, and the inability of carriers, from lack of mechanical knowledge, to correct minor troubles, cause irregularities in the carriers' schedules and resulting confusion and complaints from patrons.

"Respectfully,

"P. V. DEGRAW,

"Fourth Assistant Postmaster-General."



R. F. D. MOTORCYCLE CARRIERS S. H. DAVENPORT AND W. S. FANCHER.

The first illustration on this page is that of S. H. Davenport, R. F. D. carrier, of San Antonio, Tex., and his Indian machine, which he has been using since last spring. His route is thirty-five miles long, and he covers it in from two and one-half to three hours, making about seventy-five stops. He often takes out seventy-five pounds of mail without the slightest difficulty. He has missed but one trip on his motorcycle, then using his horse, because of excessive rains.

The second cut represents R. F. D. Carrier W. S. Fancher, of Winsted, Conn., who has been using a motorcycle for three years, and who declares that he has never had to push home.

THE MOTORCYCLE MART
SELLS THE STUFF
TWO CENTS A WORD

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MOTORCYCLE ILLUSTRATED

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General Editorial and Business Direction
F. P. PRIAL

LEROY COOK - - - - - - - *Editor*
L. H. CORNISH - - - - - *Advertising*

Booming Good Roads

NO motorcyclist worthy of the name can afford to neglect the opportunities which lie before him for promoting the good roads movement. It is certain that no one can be more interested in the development of road-building than is the motorcyclist, for none is in position to derive greater benefit from improved methods of construction and maintenance. This being true, we would advise each motorcyclist to exert every possible endeavor to forward this movement. No member of the fraternity need fear that he will be alone in the work; on the contrary, he will always have plenty of co-operation and no end of encouragement. Of course, he need not hope to accomplish wonders; instead, let each motorcyclist resolve that during the course of the year he will do at least something to help bring about improvement, if only in one road in his neighborhood.

To this end, every motorcyclist should keep in touch with new developments in this field. He should read plenty of literature on this subject. The newspapers and the magazines are full of it—there is no lack of material for study. It is most important also that he should learn what the various good roads associations are doing, and what valuable suggestions they are proposing from time to time. If any reader of MOTORCYCE ILLUSTRATED has not yet interested himself, let him begin now, and we can suggest no better start than a careful perusal of the recommendations made by the International Good Roads Congress, held recently in Paris. These recommendations were as follows:

The incorporation of tar and bituminous products in the road materials should be further developed as increasing the solidity of the roads and reducing their cost of upkeep.

River sand containing a large proportion of tiny pebbles is the only kind to be recommended as a binding material for paved roads which should lay on a concrete foundation at least four to six inches thick.

The planting of shade-giving trees is to be recommended as favorable to the preservation of all roads, especially in fairly dry climates.

The axle load compatible with normal road wear should never exceed five tons.

For Uniformity In Laws

ALTHOUGH it were unwise to anticipate results entirely satisfactory to the motorist, the very fact that there is now afoot a movement for uniform legislation affecting automobilists and motorcyclists is encouraging. One of the promoters of this movement is the Governor of the leading state in the union, and since Governor Hughes has been impressed with the propriety of at least some of the demands of the motorists, it is safe to assume that the heads of other commonwealths will soon interest themselves and their respective legislatures in the cause.

At a recent conference at which New York, New Jersey and Connecticut were represented, a draft of the act which it is intended to propose before the law making bodies of these three states, was submitted. It does not contain nor eliminate all that auto owners and motorcyclists would like to have made part of or omitted from new legislation on the subject. In view of the state of the public mind, however, and the persistence of a strong prejudice in certain quarters, nothing better than a compromise could be expected at this time.

Therefore, although the proposed act provides for special taxation of motorists, this provision is compensated for by one to the effect that the proceeds of this tax shall be used in their entirety for road construction and maintenance. Another concession will probably be a provision for a uniform registration system, while the third, petitioned for by motorists, but not entirely satisfactory to the conferees, has to do with the abolition of arbitrary speed limitations and the incorporation of a "reasonable and proper" speed cause. There is no doubt but that this provision will be hard fought, although the success with which it has been met in the Nutmeg State will constitute a strong argument in its favor.

Prospects of the Year 1909

IT is estimated that at the present time there are 50,000 motorcyclists in the United States. That is a fact which is an asset of the pastime from the viewpoint of both the trade and the lover of attractive, healthful recreation. It is not, however, the only asset; there is another quite as valuable, if not even more so, namely, the growth of the motorcycling spirit in the United States, and it is that prospect which prompts these remarks.

What are this year's chances of adding fifty per cent. to the present number? Isn't it possible that today's quota of motorcycle riders be doubled during the year 1909? That, indeed, would be a wonderful achievement, but this great country has done more remarkable things than such an increase in the number of motorcyclists would be. For the New York, Chicago, Philadelphia and other exhibitions have interested thousands whose knowledge of the motorcycle had been confined to the belief that it was simply a two-wheeled vehicle carrying an engine, and self-propelling. These thousands know today that the motorcycle is something more than that: they know that it is finely adapted to purposes of pleasure and to commercial uses. Incidentally, a large number of these interested persons are seriously entertaining the idea of purchasing motorcycles next spring.

NEXT! THE BOSTON SHOW
At Mechanics' Building, March 6th to 13th
IT WILL BE A GOOD SHOW—IT ALWAYS IS ABOVE ALL, IT'S A BUSINESS SHOW
Chester I. Campbell, 5 Park Sq., Boston
HE'S THE MAN

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CHICAGO.—Another motorcycle agency has just been added to Chicago's motor row—the American Motor Company, which has opened headquarters at 1536 Michigan avenue, under the management of Guy M. Greene, formerly of Waltham, Mass. The company, as is well known, manufactures the "M. M." motorcycle.

Mr. Greene comes from the town that saw the first motorcycle and pacing machines used in the United States. He has had long experience in the motorcycle line and is a practical mechanic, having served his time at the factory of the Waltham Manufacturing Company, producers of Orient motor vehicles.

E. L. PARRIS, JR., of New York City, who has been an M. M. rider for several years, has gone into the trade. He has secured the Philadelphia territory for the American Motor Co.'s product, and has opened a large store at 2208-10 North Broad street, in that city. The location is right in the center of Philadelphia's motorcycle section. A complete stock of M. M. machines will be carried, also parts, accessories, etc.

THE Motorcycle Club of New Haven (Conn.) at its annual meeting held on January 11, elected the following officers for 1909: President, Edward Brereton; vice-president, C. W. Hulse; secretary and treasurer, G. A. Wildman. The executive committee of the club consists of the president, vice-president, secretary-treasurer and G. P. Maley. The road officers are: Captain, Peter Cox; first lieutenant, F. B. Sloane; second lieutenant, James Pastore. The club, which was organized last fall, is steadily progressing in activity and membership, the total on the roster now being nineteen. A meeting is held once each month at the club rooms. While the organization was formed too late last fall for the members to enjoy many long rides, still the meetings during the winter have been very pleasant and profitable, and practical from a social standpoint. During the coming season the club hopes to hold a number of hill climbs, races, etc., and there is even talk of a fast track being built near New Haven.

THE Motorcycle Supply Company, of Hammondsport, N. Y., doubled their shop room in 1908. They again announced in the month of January that they were compelled to double up their plant, which is certainly a remarkable growth, and genuinely indicative of the expansion of the motorcycle trade.

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A DESIGNER, IMPROVER AND TECHNICAL EXPERT with long and successful record as a salesman, competition rider and general advertisement and business man wishes to become connected with a first class manufacturer in any locality, or would be a factory representative in good district. Technical, care MOTORCYCLE ILLUSTRATED.

1908 F. N. BIG FOUR, fine condition, $175. A bargain. Coombs & Fish, 36 Austin St. (near Post Office), Worcester, Mass.

FOR SALE—1908 Indian Twin, 5-h. with magneto. New frame. Best condition. Practically a 1909 machine. $200. Coombs & Fish, 36 Austin St., Worcester, Mass.

1908 ½ F. N. BIG FOUR in first class condition. $260. Coombs & Fish, 36 Austin St., Worcester, Mass.

SAVE CHAIN TROUBLE by using Ball Bearing Idler, fits Indian, R-S, Thor and Light motorcycles. For cut and price address A. C. Mount, 1158 Washington St., Elizabeth, N. J.

WANTED—To exchange two passenger auto, with top, for motorcycle. Address W. L. Hooker, Findley Lake, N. Y.

TWO WAGNERS, 3-h. 1908 model, tandem attachment, $140. 1909 Tourist, 500 miles, $185. A bargain. Cash talks. Machines guaranteed. Geo. B. Knapp, 4506 Detroit Ave., Cleveland, Ohio.

RUN A "CROSS" if a flat belt. Most power, least stretch, and absolutely waterproof. A winner for rider or jobber. Get prices. Cross Bros. & Co., Rochester, N. Y.

FOR SALE—1908 Royal motorcycle, perfect condition, only used eight weeks. Price, new, $200; sell for $135. H. B. Armor, 5135 Funniston St., Philadelphia, Pa.

MOTORCYCLES—35 second hand machines on hand, all makes, $40 up. Send stamp for illustrated circular describing them. Tiger Cycle Works Co., 782 Eighth Ave. New York City.

1907 WAGNER, $90; in excellent condition, with tandem attachment, stand, cyclometer, etc. B. L. Kemper, Perham, Minn.

1908 M. M. Special with extra parts, $140; have rheumatism, need money. H. J. Blickensderfer, Shanesville, O., Route 1.

FOR SALE.—A three horsepower 1908 Thor. Geared transmission, little used, extra sprockets, tandem attachment if desired. Guaranteed in good running order. Price, $150. Outfit cost $250. A. C. Stansbury, Canton, Ill.

FOR SALE—1¾-h. Indian; first class condition. Write Box 52, Pascoag, Rhode Island.

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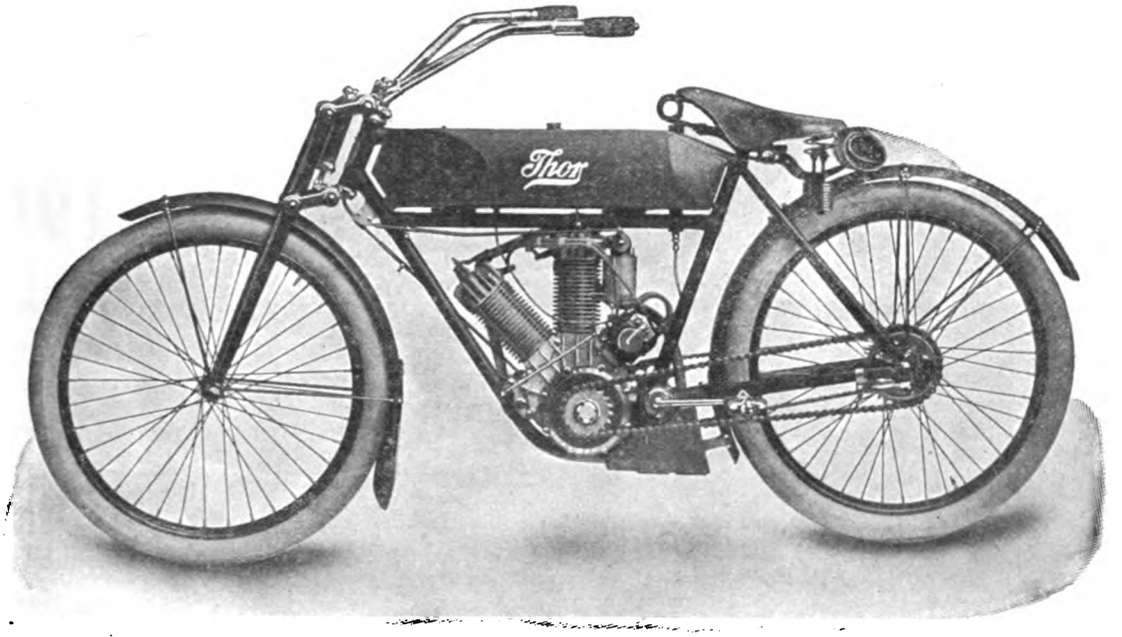

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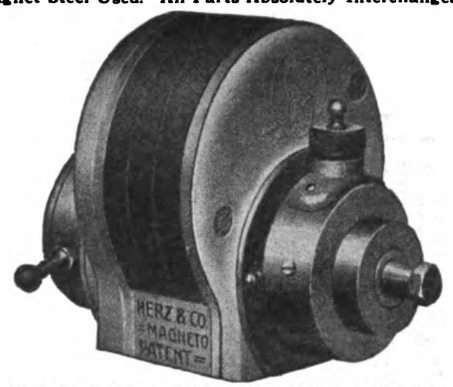
Designed and Built for Motorcycle Work Exclusively

Has Beaten all its Competitors in Europe. The Finest Styrian Magnet Steel Used. All Parts Absolutely Interchangeable



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50% Higher Efficiency than any other Magneto of twice its size, on account of the absence of all Pole Pieces

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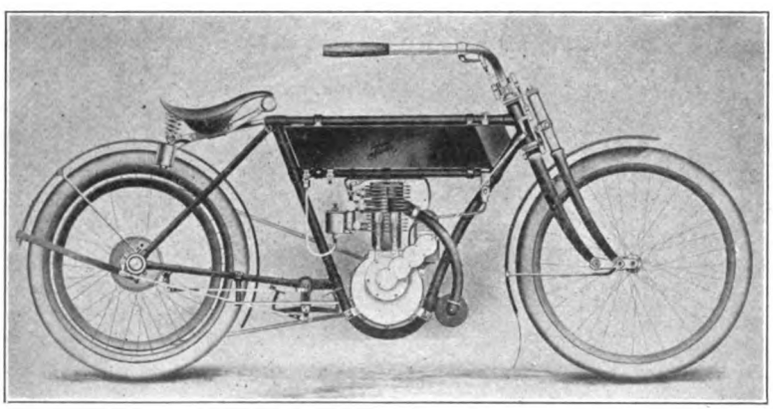

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HARD TO WEAR OUT
EASY TO RIDE ON

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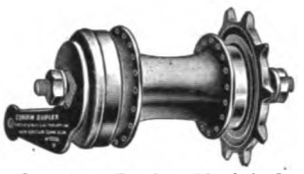
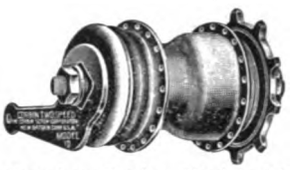
Model 9
FOR
1909

Corbin Duplex



Coaster Brake Model 8

Corbin Two Speed



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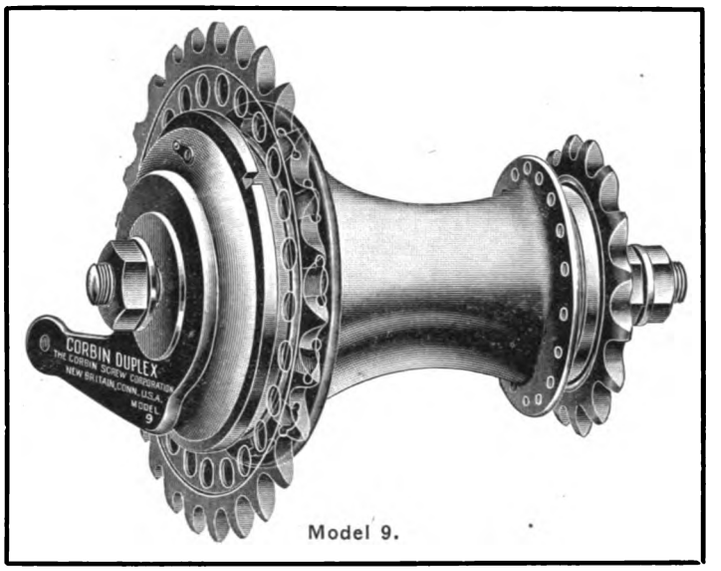
The Best Motorcycle Coaster Brake on the Market

Built Throughout for Motorcycle Use.

½ inch Axle.

Larger Bearings, giving longer life.

The Inside Diameter of the Brake Drum is 3 Inches, with Brake Shoes ½ inch wide, giving double the Braking Surface of Any Other Model.



Model 9.

Model 9 is 5⅜ in. long outside of cones $1^{15}/_{16}$ chain line.

Model 9A is 6⅜ in. long outside of cones 2¼ chain line.

Made for either Belt or Chain Drive Motorcycles.

Heavy Front Hub to match.

Any size sprocket, either ⅛ or 1 inch pitch.

Complete Catalogue on Request

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Faultless materials, skilled workmanship and rigid inspection placed them at "the top of the heap" in one short season.

They won contests on both road and track with a regularity and frequency that suprised even their makers. But still more important, they stood up under the every-day, incessant grind of business service and pleasure touring in a way that substantially increased the utility and enjoyment of the motorcycle. Motorcyclists soon realized that Morgan & Wright had, as one rider put it, "hit the nail on the head" and produced a tire that could at all times and all places **be depended upon.**

One of the host of friends they have made says:--

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Name and address on request.

Morgan & Wright, - Detroit

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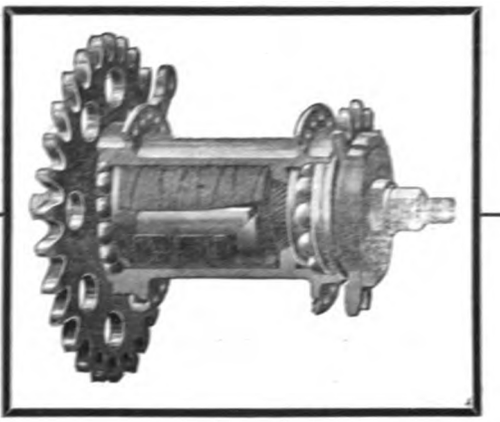

Coasting Down the Steepest Hill

The Eclipse Motorcycle Coaster Brake

Stands the Punishment

We have been making coaster Brakes for years and ought to know how.

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is strong, capable, simple in construction. Only eight parts—none of them small, delicate, easily broken or deranged.

Largest Braking Surface Ever Used

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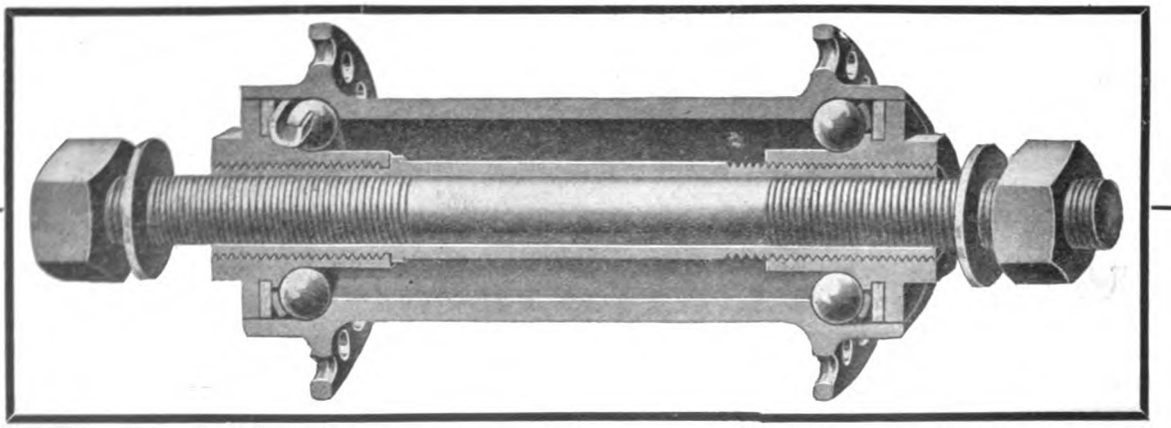
Eclipse Machine Company, Elmira, N. Y.

Licensed Coaster Brake Manufacturers



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DID YOU Examine the New STANDARD

Motorcycle Speedometer at the Shows?

If not, we will be glad to send you our catalogue, now ready, which tells the whole story.

Three inch dial. Sixty mile scale. Complete with shaft and fittings.

Price $15.00.

Three inch dial. Sixty mile scale. Complete with shaft and fittings and 10,000 mile odometer.

Price $20.00.

These instruments are the very best that can be produced for the purpose AT ANY PRICE. We have spent two years in perfecting the STANDARD for motorcycle use; we have now got it where it is mechanically right. An automobile speedometer in miniature cannot give perfect satisfaction on a motorcycle—conditions are radically different. We have found this out, and the STANDARD speedometer is a motorcycle speedometer.

Our proposition is a good one for Agents. Write us.

PARKER MFG. CO., Clifton Street, BOSTON, MASS.

Note the direct shaft drive. No kinks or bends to cause trouble. Shafts furnished in any length to fit different machines.

This cut shows the standard from the rider's position in the saddle. The dial is where it can most readily be seen without effort on the rider's part.

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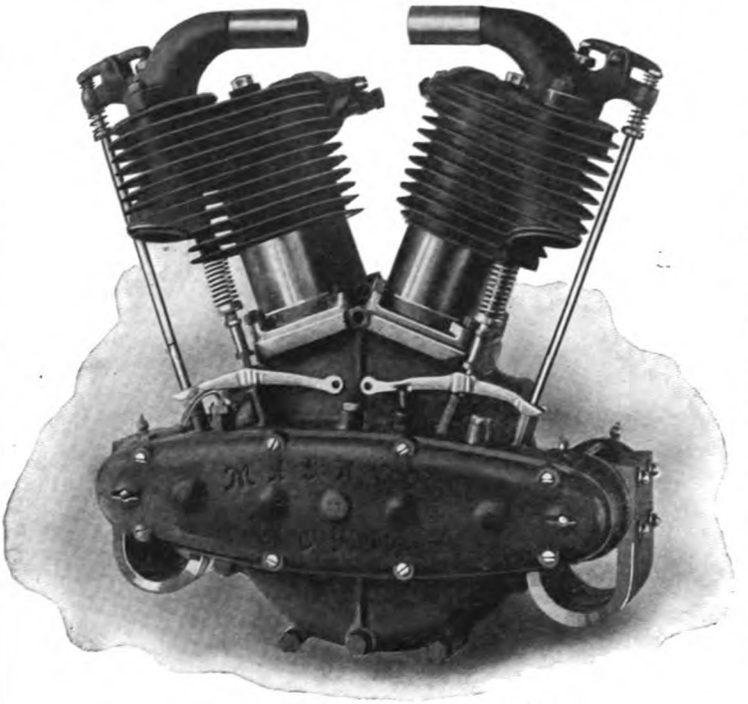
"WE TOLD YOU TO WAIT!"



The Engine of the Twin 5½ HP.

Now we show the Twin Magnet Motor

Please notice the mechanical inlet valves, simple, efficient and correctly located—over the exhaust valve. The chamber of the exhaust valve is separated from the cylinder, to keep the exhaust valve cool and prevent breakage.

The gear case and the two magnetos are also clearly shown. Later we will tell you about the many advantages of our Low Tension make-and-break ignition.

Notice the clear cut lines, the thin, even casting of the radiating flanges.

Better, send for a Catalogue.

Magnet Motor Co.

302 Michigan Ave. Chicago, Ill.

Free Motorcycle Tire Insurance

We protect the user of Goodyear Strong Fabric Motorcycle Tires from all expense for upkeep for one full season.

Goodyear Strong Fabric Motorcycle Tires are all that the name implies—Tires of the Goodyear construction, famous the world over—strengthened by our Special Motorcycle Tire Fabric—built to stand the terrific grueling of motorcycle use, which soon sends the ordinary tire to the junk pile.

In the Goodyear Tires only the finest NEW Para rubber is used. It is quoted at $1.20 today. We could use Lapori or Guayule rubber that sells at 35c per pound, or even "reclaimed" rubber—from old boots or garden hose out of which the life had been burned by heat and acid. We could get THIS kind of rubber at 10 cents a pound—but it WON'T DO FOR A GOODYEAR.

Goodyear Strong Fabric Motorcycle Tires are so much better than the ordinary kind—so proof against the usual damage—that we cheerfully agree to become entirely responsible for the upkeep of each and every tire sold, for an entire season.

Should a Goodyear Strong Fabric Motorcycle Tire be injured IN ANY WAY, we will make the repairs entirely free during the period covered by the insurance, shown by the tag attached to the tire. This is the strongest guarantee ever put on a motorcycle tire.

Our purpose is to make good tires—not to sell them cheaper than others.

The cheaply constructed motorcycle tire means trouble almost from the start. Repair bills—if the tire can be repaired at all—are an expense that begins soon after the tire goes into use.

Goodyear Strong Fabric Motorcycle Tires not only outwear several pairs of this kind, but are of such construction that permanent repairs can be easily made.

They have the Goodyear Tough Rubber Tread, as strong as rawhide—united to a pure, soft Para rubber inside so perfectly as to be practically one piece. This in turn is strengthened by being woven into our close-woven fabric—four plies—

GOODYEAR STRONG FABRIC MOTOR-CYCLE TIRES

Making a tire so durable, and at the same time so resilient, that there is no comparison with the common motorcycle tire.

We also have a special thread fabric for racing purposes.

The Goodyear Strong Fabric is in reality the most economical tire on the market. That explains its popularity with motorcyclists who know—and why riders after trying the Goodyear will not have any other kind afterwards. Send today for sample section.

Made Single or Double Clinch

The Goodyear Tire & Rubber Co. Mott St., Akron, O.

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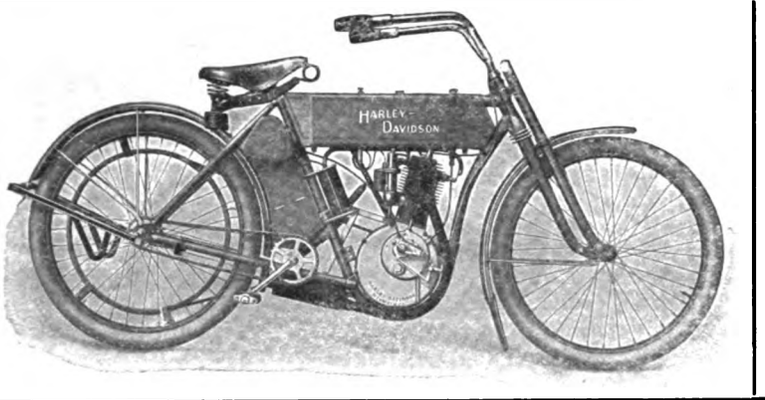

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The Only Diamond Medal Awarded

THE GRAY FELLOW That WON the Great F. A. M. Endurance Run, 1908.

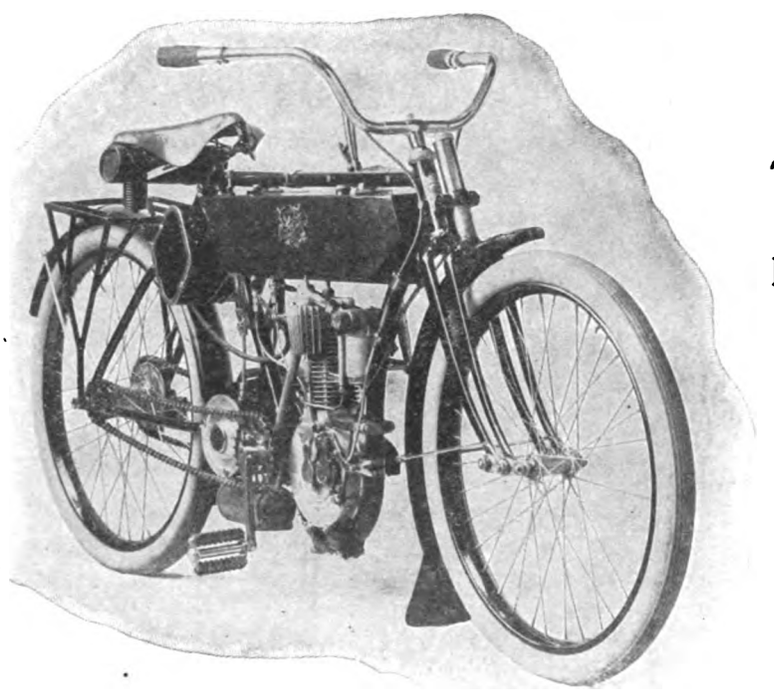
—That Made a WORLD'S RECORD In Economy.

—That WON the GRUELING Chicago Endurance Run.

Harley-Davidson Motor Co., Milwaukee, Wis.

The 1909 MINNEAPOLIS TWO-SPEED Is a Marvel

THOR Motors and THOR Equipment



Two-Speeds and a Free Engine

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Fast Powerful Comfortable Attractive

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A Few Good Agents Wanted to Sell the

SENSATION OF 1909 SEASON

3½ H.P.
$175.00

4 H.P.
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EMBLEM MOTORCYCLES

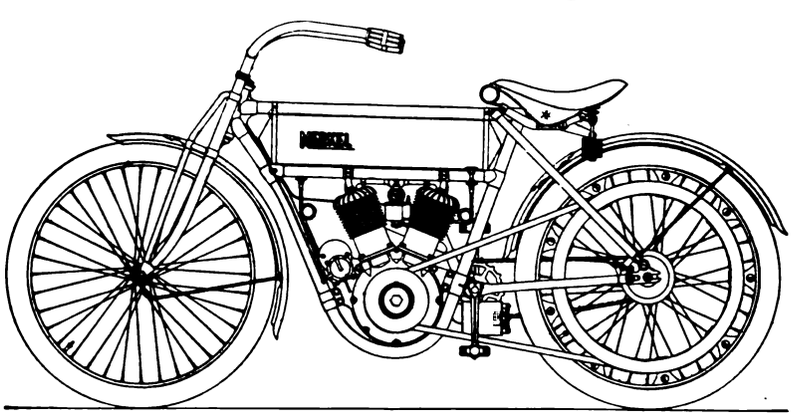
Manufactured by

Emblem Manufacturing Co., ANGOLA, N. Y.

A WINNING COMBINATION

MERKEL BELT DRIVE 09 LIGHT CHAIN DRIVE

POWER



SPEED

COMFORT

Five Models—with more original and advanced ideas in construction and more exclusive features than ever offered by any manufacturer.

PLEASINGLY PERFECT—PERFECTLY PLEASING

We can talk to the point with some more live dealers.

Merkel-Light Motor Company, Pottstown, Penna.

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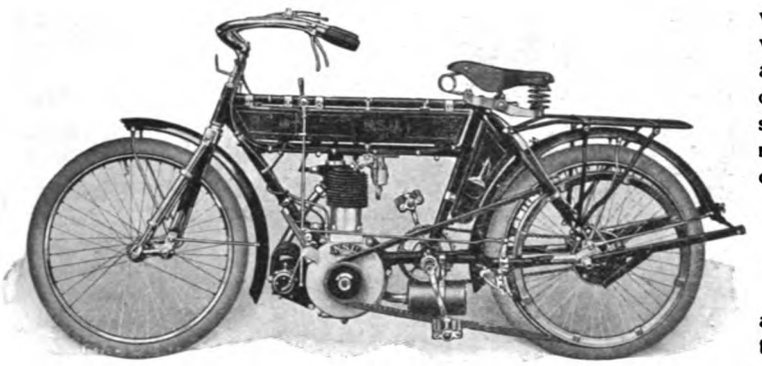
NSU

IT IS A MOTORCYCLE



4 H.P. Model de Luxe

whose excellent qualities are known the world over. It is of course of vital importance that for mechanical moving parts the quality of material should be the first consideration. We have spared no expense in making the N. S. U. all that could be desired, and the fact that over

15,000

N. S. U. Motorcycles

are on the road today proves our assertion that the N. S. U. is the most popular, perfect and reliable machine on the market today.

THE N. S. U. 4 H. P. MODEL DE LUXE IS UNEQUALLED

It is equipped most fully and is ready for the road to-day; no extra fittings are required; everything is there barring lamp and horn. The material, of course, is the very best procurable; it is specially chosen for motorcycle construction, and is strongly guaranteed. This construction is carried out by skilled male mechanics only, and every machine is given a thorough road test before you get it — a rare proceeding. **MAY WE SEND OUR CATALOGUE "M"**

N. S. U. MOTOR COMPANY, 206 West 76th Street, New York City

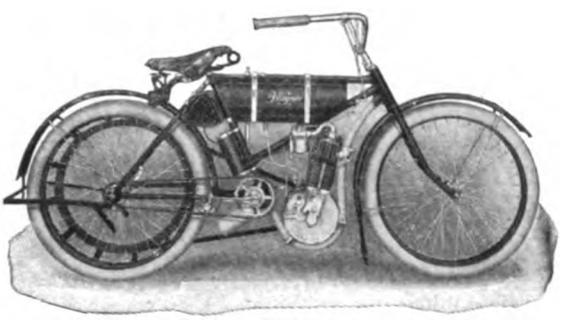
Wagner Motorcycles For 1909

SHOW NO IMPROVEMENT

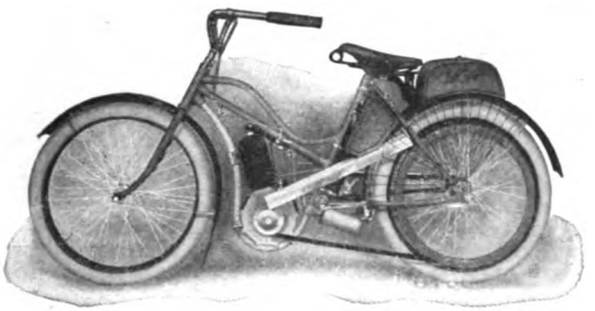
or change in frame construction, because there was room for neither. The loop frame construction is a **new feature** on several leading makes **this year.** The

Wagner Diamond Loop Frame

has been for **EIGHT YEARS,** and still is, an **exclusive "WAGNER" feature.** The LOOP for correct MOTOR POSITION—the DIAMOND for STRENGTH.



1909 Tourist Model, 3½ h. p.



Ladies' Drop Frame Model, 3½ h. p.

The adoption of the loop frame which brings them nearer rather than away from the standard set by us eight years ago, is a practical admission by these "leading manufacturers" that they have been that far behind the procession.

WHY NOT ride or sell a machine that has new features that **are new**—exclusive features that **are exclusive?** It doesn't cost any more, and it's worth it.

Send for Catalog D.

WAGNER MOTORCYCLE COMPANY, ST. PAUL, MINN.

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1909 Model
Now Ready

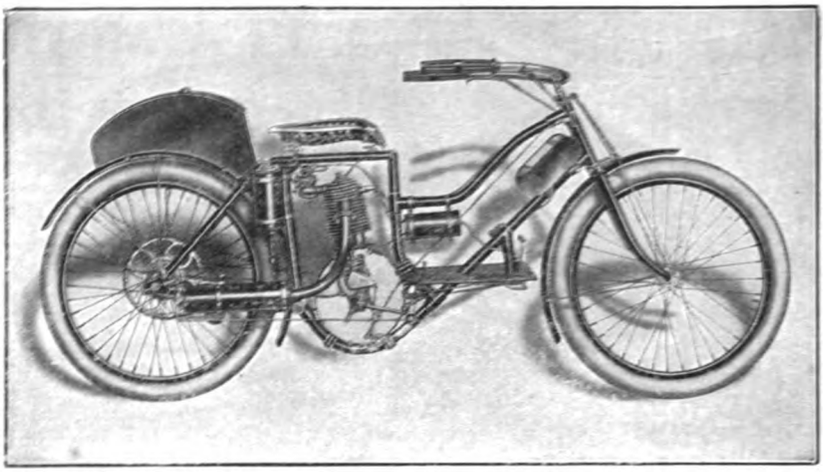
NEW ERA AUTO-CYCLE

See Our Exhibit—Space 356—At Mechanics' Building, Boston, March 6-13, 1909

1909 Model
Now Ready

Good Features

Two Speeds
Free Motor
Motor started by a crank
Foot Board
No Pedals



Good Features

Form Seat
3½ h.p. Motor
60" Wheel Base
No Vibration
Luxurious Riding

PATENT PENDING

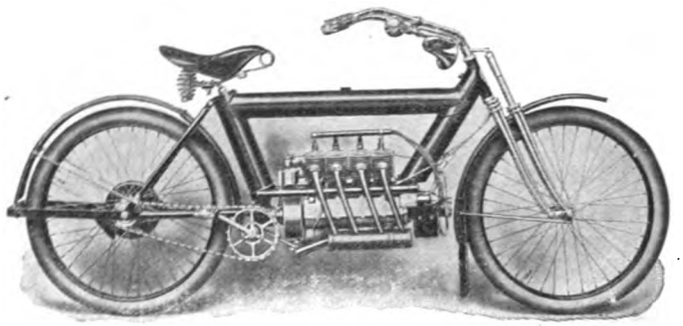
Notice to Dealers: MR. DEALER it would pay you to investigate our proposition. Some desirable territory open.

Write at once for full particulars.

THE NEW ERA GAS ENGINE CO., 22 Dale Ave., Dayton, Ohio

THE PIERCE VIBRATIONLESS MOTORCYCLE

With
Shaft and Gear Drive, Force Feed Lubrication, Mechanical Valves, Magneto, Two Brakes, Grip Control solely, Powerful Frame and no separate tanks.



Without
Chain or Belt, Hand Oiling, Automatic Valves, Batteries and Coil, One Brake, Grip and Lever Control, Bicycle Frame and separate tanks.

4 CYLINDERS

The Pierce Motorcycle could only be built by men of skill and experience and only a firm having a wide reputation would dare to venture on the market with such a high class product as this machine. The same skill which has created PIERCE ARROW CARS and PIERCE BICYCLES has produced the PIERCE VIBRATIONLESS MOTORCYCLE. The firm which has built up its reputation on Pierce products now stakes that reputation on the Motorcycle. The mechanical superiority of this motorcycle over every competitor is apparent to everyone, but we shall be glad to send Booklet C describing the machine more fully.

We invite correspondence from every dealer. ¶ As a rider you will own a Pierce sooner or later,—why not now?

WE SHALL EXHIBIT AT THE BOSTON SHOW.

THE PIERCE CYCLE COMPANY 1-22 Hanover Street, Buffalo. N. Y.
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Manufacturers of the Celebrated Pierce Bicycles

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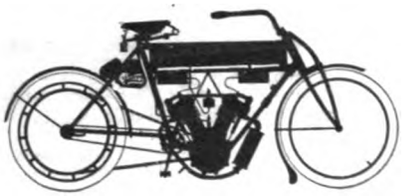
CURTISS Double Cylinder Motorcycles were FIRST IN AMERICA



They're still first in everything

First in Speed

World's Record (61 cu. in.) 1 Mile 46 2-5 sec.

First in reliability

Only DIAMOND MEDAL 1907 F.A.M. Endurance run. Hightest Award "Both Classes" 1908 F.A.M. Endurance Run.

First in the Double Bar Frame, the long Wheel Base, the Vertical Engine with stripped cylinders, the Anti Friction Bearings, V-Belt and numerous other so-called "new" which we have used for years.

Get the original and Know you're right.

The 1909 models represent a combination of speed, power, strength, durability and simplicity never before equalled.

Send for Advance Circular and further particulars.

G. H. Curtiss Mfg. Co., Hammondsport, N.Y.

You Will Never

Know the exact limitations of your motorcycle's power unless you look in the right direction.

The Shamrock Gloria

Rubber V Belt

will show you just what can be done if all power wastage is checked. There is no question of slipping or stretching about the **SHAMROCK GLORIA**—*it preserves its tenacity of grip under all conditions.*

MOTORCYCLISTS

Insist on the genuine and be careful to avoid all substitutes. **THE SHAMROCK GLORIA** is a proven product.

Booklet "M."

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The New Departure "Two-in-one" Annular Ball Bearing

WILL REMEDY YOUR BEARING TROUBLES

These bearings are particularly adapted to motorcycle construction. They are being used successfully where other ball bearings have failed.

Leading manufacturers of motorcycles have adopted them.

The NEW DEPARTURE is the only Ball Bearing that takes load from any direction with equal efficiency.

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1909 Model
Now Ready

KOMO

Good
Feat H!

Two
KOKOMO
OH!

GIVE ME
KOKOMO
TIRES

And I and all My
Relatives will be
HAPPY

Kokomo Rubber Co.
South Main St. KOKOMO, IND.

The Neverout
TRADE MARK
MOTORCYCLE OIL LAMP
Showing a Red Rear Light

The Neverout Motorcycle Lamp, with combination tail light, showing rear view. (Patented)

A combination of headlight and tail light in one lamp.

The Neverout burns kerosene oil 16 hours with one filling and will stay lighted under any and all conditions. All riveted—will not rattle apart over the roughest roads. Sold on ten days' trial. Price $3.00 complete.

The Neverout is equipped with a patent glass-covered reflector, made of pure German silver; never loses its original brilliancy; instantly removable. Guaranteed to stay lighted or money refunded.

Made in gun metal, brass and nickel finish.

The only perfect and reliable motorcycle lamp made.

If your dealer cannot supply you, write us direct.

Dealers: Write at once for our proposition.

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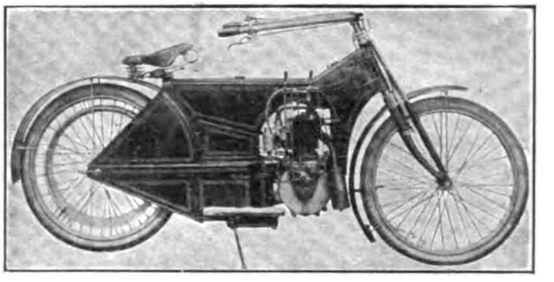
THE SENSATION OF THE SHOW



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The Most Comfortable Motorcycle
Ever Produced. Built Like a Car
Three types shown: Single Cylinder, Twin Cylinder and Two-Speed Machine.
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Write us for agents' proposition, as we have some desirable territories open

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AND
Harley-Davidson

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Parts, Supplies and Repairs

Send for large accessory catalogue

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Great Bargains in Second-hand MOTORCYCLES

$50 up. Twins $150 up

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We are glad to announce that hereafter

Stanley T. Kellogg

will have entire charge of our Retail Department, in addition to his distributing agency for Excelsior Autocycles.

As one of the most successful and daring motorcycle riders "Stanley" is well known from the Atlantic to the Pacific. We are fortunate in being able to enlist the services of a man of such wide experience in the motorcycle business, and one who is so universally known and liked. We invite those in the vicinity of New York to call and permit Mr. Kellogg to show and explain the 1909 F. N. and Merkel-Light motorcycles.

This arrangement permits our Mr. Ovington to devote his entire time to our large wholesale and distributing business.

OVINGTON MOTOR CO.

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Sole American representative of F. N. Motorcycles.
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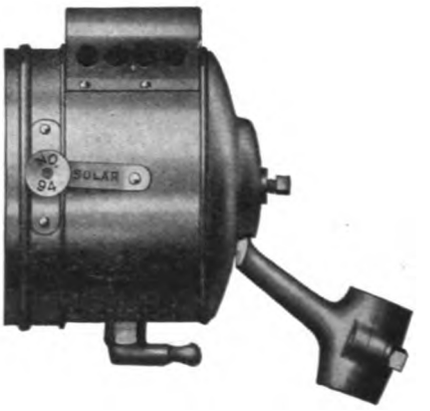
Agents and importers of Ovico Motorcycle Specialties.

FOR NIGHT RIDERS!



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Headlight for Motorcycles

A perfect Headlight and generator for motorcycle use. It will withstand the most severe usage. Vibration has no effect upon it.

It is the most perfect headlight of its size in the world. It makes night riding as safe and comfortable as in the day.

The Generator has the largest capacity and the best system of gas generation on the market.

The Searchlight type lens mirror headlight is the same in construction and design as the famous Solar Motor Car Headlights.

Write at once for particulars regarding this Headlight.

In ordering state make and model, so we can supply proper bracket.

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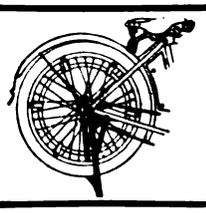

Quick Action Motorcycle Stand. Raised or lowered instantly with the foot. Perfectly rigid. Absolutely Reliable.

Quick Action Motorcycle Repair Pedal. Carried in tool bag or pocket to replace a broken pedal.

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The ONLY Magneto Copper Switch that is perfectly DEPENDABLE.

Our Guarantee is Absolute

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Perfect V Belt for Motorcycles & Motorbuggies

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FOR BELT OR CHAIN TRANSMISSION

"K&R" Conversion Sets

FOR ANY MAKE OF MOTORCYCLE

The "K & R" Device is a Two-Speed, Friction Clutch, Free Engine, Band Brake, Hand Starting; all contained in the Rear Hub and operated entirely by foot levers.

By use of the FRICTION CLUTCH the rider can start as steady as with an automobile—stop and restart at will on the steepest up grade.

Doubles your motor power
Climb ANY hill
Any Low Gear Desired.

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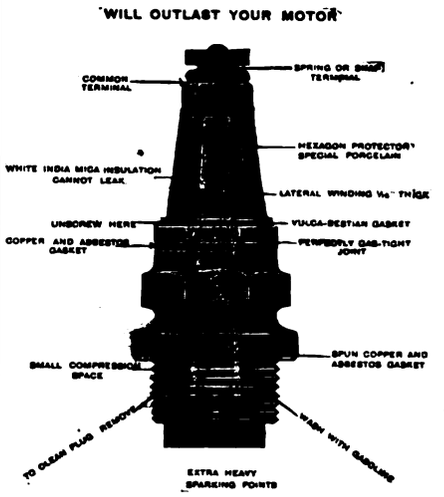
Write for booklet, "K & R" Conversion Sets and learn how to convert your old machine (chain or belt drive) into an up-to-date, 2-speed and free engine motorcycle.

Keller & Risque, St. Paul, Minn.



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Always remember that this Plug is made expressly for Motorcycle work and will give you better service than any other.

Don't be stung with an imitation—for it is imitated. Ask for and obtain it.

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Everything for Motorcycles and Their Owners.

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Well, We Make Them!

Let us figure on your iron castings. We are making a specialty of motorcycle cylinders.

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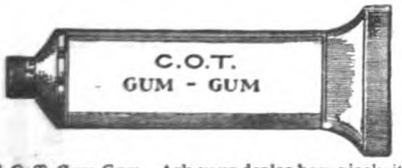

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Send for our Standard Price List of accessories, tools and supplies. It is alphabetically arranged for ready reference.

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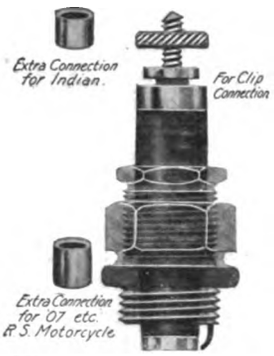

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PRICE $1.00

MONARCH Motorcycle Spark Plug

Best in the World

We guarantee satisfactory results with this plug or refund your money in 90 days. Can be taken apart and cleaned in an instant.

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March 6th to 13th

WILL BE THE LARGEST AND MOST COMPLETE EXHIBIT OF ITS KIND EVER HELD

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FOR MOTORCYCLES

"It's nice to know how far you go."

It also tells just what you ought to know regarding tires, batteries, gasoline consumption, etc.

Motorcycle Striker
25 Cents Extra

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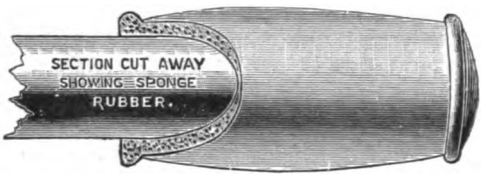

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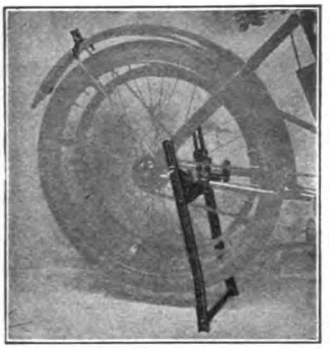

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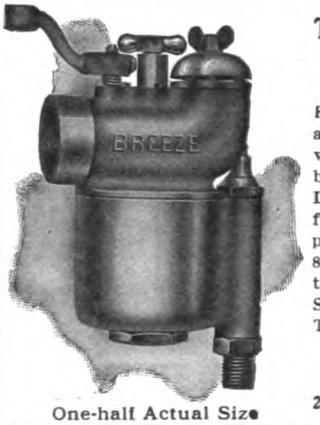

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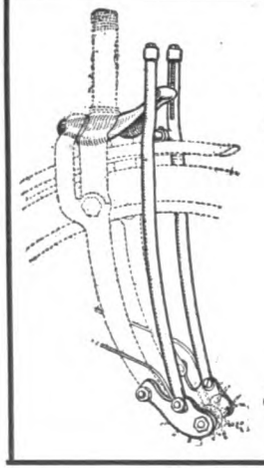

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MOTORCYCLE ILLUSTRATED

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THE A. B. C. OF MOTORCYCLING

A Series of Elementary Hints for the New Man:—Part I.

By ROLLAND C. LAURIE

THIS and succeeding articles will be devoted to welcoming "Tenderfoot" into the ranks of the noble army of motorcyclists and to engaging the interest of the many who "sit on the fence," fearing to jump, because of the phantom intricacies of that truly simple piece of mechanism—the motorcycle engine. To you would-be brethren I say: "Jump, and jump right now, for the era cometh when every man shall own his little private railway train."

First let me speak confidently, from ten years of riding, experience, of the fact that the motorcycle is not a toy but a mechanical production; it is easy to ride and simplicity itself to manage and care for, and, if kept in good condition, will take the rider anywhere without breaking down. Moreover, modern construction has produced a well sprung, *comfortable* mount which will run equally as well on a prairie trail as on a skillfully engineered road.

For a standard to start with, I take a single cylinder motorcycle. First, let us consider the engine and carbureter and their functions. The carbureter mixes the gasoline and air in correct proportions and "feeds" this explosive mixture into the cylinder through the inlet pipe and inlet valve. This mixture is sucked into the cylinder, compressed and then exploded or "fired" by means of an electric spark. Thus the flywheels rotate and the pulley or sprocket fixed thereto drives the back wheel either by chain or belt or (in some cases)by shaft.

Now, the engine is what is termed as a four-cycle type and its action may be described as follows: The sprocket or pulley, as the case may be, which *drives* the back wheel is of course *driven* by the back wheel when the engine is idle; thus to start the motor it is necessary to pedal the engine shaft round, as will be described later in riding instructions. This action of pedaling causes what is known as the suction stroke; that is, the piston descending in the cylinder creates a partial vacuum. The inlet valve now opens and thus a "mixture" is admitted to the cylinder. Two types of mushroom shaped valves are used, the older form being known as automatic; that is, the valve stem is supported by a spring of certain strength, and the suction of the engine opens this valve at a certain point. The other and more modern type is known as the mechanically operated inlet valve, this being operated from a cam on the main shaft of the engine, which is so arranged as to cause it to open as the suction stroke is in operation.

The suction stroke being completed, the piston being at the lower end of the cylinder and the flywheels having made half a turn, the inlet valve closes either "automatically" or "mechanically" and the compression stroke begins. The next half turn of the flywheel raises the piston and thus compresses the gas mixture, as this mixture cannot escape, the piston being fitted with rays rendering it free from leakage. This "mixture" is highly compressed and just when the piston connecting rod is a trifle past the top of the stroke or dead center the spark occurs. The result is that the explosion forces the piston down, causing the weighted flywheels to rotate and raise the exhaust valve, which operates from a cam on the main shaft. The piston, on rising again in the cylinder, forces the burnt or exploded gas through the exhaust pipe into the muffler and thus out in the open air.

This is what is known as the cycle of operation, and is repeated as long as the engine is running. That is, we have the "suction stroke, compression stroke, firing stroke and exhaust stroke," the four operations forming separate and distinct actions of the four-cycle engine.

To describe clearly the engine which performs these acts we will take it both externally and internally. Externally we have the cylinder with its cast radiating flanges and valve pockets, the reason for these flanges being cast is that an internal-explosion engine generates great heat and these flanges give a greater cooling surface for the air draft to play on than would a plain cylinder. Thus the air-cooled motor depends upon its motion through the atmosphere for cooling. Therefore never allow your engine to run too long on the stand, as, when standing still, overheating will quickly result and this has a bad effect upon the valves and cylinder.

At the base of the cylinder is fixed the crank case which contains the flywheels and valve and spark mechanism. Frequently on the top of this crank case is fixed a small valve to release the compression which occurs in the crankcase itself on the downward stroke of the piston, the purpose being to prevent the lubricating oil from being forced out of the bearings of the engine. Leading to this crank case is the pipe from the lubricating oil pump, and underneath is fitted a drain tap to drain away used oil. Now for the internal construction of the engine.

The piston, as has been stated, is leak proof: this quality is obtained by fitting three rings of springy gray iron which lie in grooves on the "walls" or outer circumference. These rings bear against the cylinder bore and make a perfectly gas tight fit, yet producing very little friction if properly lubricated.

Through this piston is fitted a pin which has hardened bearings, and working on this pin is the connecting rod. This rod works on another bearing at its lower end, this bearing being the connecting crank pin of the two flywheels. Thus the piston and flywheels are securely con-

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nected, and although the two bearings on the connecting rod are "hard worked" they wear for long periods without needing to be rebushed.

The valves fit into beveled seatings in such an accurate way as to insure their being gas tight. From time to time it is necessary to "grind in" the valves with a paste formed of oil and emery or carborundum, as will be described in a later article. The two forms of inlet valve have been mentioned, but the exhaust valve is always mechanically operated, and the method of insuring the opening of the exhaust valve at the right time is a very simple one.

The main crank shaft has a small gear wheel fixed to it, and known as the two-to-one gear. To the exhaust cam shaft is keyed another gear with double the number of teeth, and between the two is another larger gear which is generally known as the idler. This causes the exhaust cam gear to revolve *half as fast* as the small gear, and thus, by this means, the operating cam, fixed to the larger gear, opens the exhaust every other revolution of the flywheels.

At the other end of this cam shaft is fixed the ignition cam, which is timed so as to make contact of the platinum points of the trembler blade and screw in the contact breaker box, producing the spark at the plug at the right time—this in battery ignition models. This method of valve operation is the most general; there are others used, but the action is practically the same. Of course it will be understood that the method of operating a mechanical inlet valve is the same as that of the exhaust valve.

On multicylinder engines the valve operation is the same in principle, but it frequently occurs that mechanical inlet valves are fitted to these types. The sole difference in the working of the valve and spark mechanism on multicylinders is that it is arranged to produce a double alternate action, the connecting rods of the two cylinders both working on the same crank pin. To the novice I should recommend the use of a single cylinder motorcycle at first. When he has studied this type thoroughly he will be competent to tackle a powerful twin, with which he would otherwise have some trouble.

I will now deal with the carbureter, taking as a standard a popular type, namely, the "float feed" pattern. The carbureter is supplied direct from the tank by a feed pipe which is usually fitted with a gauze at the tank outlet to prevent any foreign matter from entering and disturbing the adjustment of the carbureter. In the adjustment hints given later I will point out various causes of minor breakdown. But the point I wish to emphasize now is that the rider should thoroughly understand the construction of his carbureter, as this vital part needs to be kept clean and in perfect working order. The float-feed carbureter is constructed as follows:

First, there is the gasoline chamber, inside of which there is a float, the object of this float being to maintain the correct level of the gasoline supply. There are so many types of float-feed carbureter that it is difficult to do anything but generalize the action, so that, for the sake of clearness, it is best to state that this float is so adjusted as to allow the gasoline to reach just the correct level below the spray nozzle. The suction of the engine draws the gasoline "sharply" against this spray nozzle, the exact proportion of the supply being adjustable by means of a needle valve.

As has been pointed out, the proper proportion of air has to be mixed with the gasoline thus sprayed. Carbureters differ in the method employed to admit this air. In some cases the air opening is situated at the base of the carbureter and in others the openings are in the side or at the top. In any case there is an adjustable air opening. Sometimes it is automatic and governed by the speed of the engine, and in others adjustable by the operator by means of a sliding collar. In many cases an auxiliary air valve is fitted, this usually having a spring which allows the valve to work at high engine speeds or when the throttle is opened.

The throttle is provided at the outlet of the carbureter and governs the quantity of gas admitted to the engine; this throttle is always operated by hand. In the articles to follow, hints will be given as to the judicious use of the throttle, and the emphasis of driving with the best proportioned "mixture," both for the sake of economy and for getting the greatest possible power out of the engine.

Leading from the exhaust valve is a pipe which ends in an exhaust box or muffler. The internal construction of this box consists of a series of "baffle plates" with holes drilled to allow for the escape of the expanded gas. These plates serve to deaden the sound caused by the sudden expansion of the gas. Sometimes a "cut out" is fitted to the muffler to allow the gas to escape more freely for the purpose of obtaining a slight increase in power. This is really unnecessary, as there should be practically no back pressure in a good muffler, while the use of the cut out does not tend to popularize the motorcycle, owing to the noise it creates. Therefore, if you have a cut out fitted, use it judiciously and far from the haunts of men.

In the next issue I will deal with lubrication, electrical and other constructional details.

ON a card small enough to go into a vest pocket, F. B. Widmayer, of 2312 Broadway, is publishing the following practical list of "Motorcycle Don'ts":

"Don't try to run with your battery key in your pocket, nor with dead batteries. Don't try to start without gasoline in the tank, nor with the gasoline shut off. Don't fail to test batteries before starting on a trip, especially a long one. Don't fail to lubricate frequently. Don't buy cheap oil; the best is the cheapest. Don't expect your motorcycle, chains, etc., to run forever without adjustments, cleaning and lubrication. Don't repair a puncture in a hurry; take time to do it well, use good cement, etc. Don't forget to strain your gasoline. Don't look into the gasoline tank with a lighted match or candle. Don't blame the carbureter for all your trouble; look elsewhere first. Don't fail to examine and clean spark plug and contact points once in a while. Don't forget that lubricating oil is cheaper than parts. Don't always blame the machine; maybe part of the trouble is with the operator. Don't ride through city streets with the muffler wide open and at high speed. Don't buy a cheap motorcycle; buy the best. Don't tackle a job on a motorcycle unless you know how; experience costs money. Don't forget that there are good men who make a specialty of this work."

IF Indianapolis fails to land the convention of the Federation of American Motorcyclists in 1909 it will not be because of lack of work on the part of the Hoosier motorcyclists. A large delegation from the Indiana metropolis were on hand at the Coliseum in Chicago during show week working like beavers and leaving no stone unturned which may have a bearing on the 1909 convention.

The work at Chicago was really the second step in the campaign mapped out by the men from Indiana. The first step and foundation for future work was laid at the Madison Square Garden show, where George Hamilton and T. V. Graves led in a vigorous presentation of the claims of Indianapolis upon the F. A. M. plum. Hamilton brought with him George W. Stephens, Carl Fisher and several others to Chicago, where they made a sort of buttonhole campaign, which unless all signs fail will result in a signal victory for the city which boasts Indiana's capital.

A ROTARY, air cooled motor, using solid blocks of naphthaline as fuel, is a novelty that has been arousing much interest in Paris. Lower cost of running is claimed for the naphthaline engine, the difference being said to be as great as 60 per cent.

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F. A. M. ENDURANCE RUN REQUIREMENTS

IT appears from plans announced by motorcycle clubs and otherwise that many members of the fraternity are mistaken as to the requirements of an endurance or reliability contest. Many so-called competitions of this character are such in name only, inasmuch as they fail to comply in important particulars with the rules of the Federation of American Motorcyclists. Apropos of this subject, the following letter, over the signature of President Ovington, is instructive:

"I wish to call the particular attention of your readers to Article 18, Section 1, of the competition rules of the Federation of American Motorcyclists. This section is as follows:

" 'No event shall be recognized as an endurance or reliability contest which is of less distance than 300 miles; in which the travel shall average less than 150 miles per day; in which the course is repeated more than once; in which controls shall be less than twenty-five miles apart; in which arrival times at controls are not definitely fixed or in which more than thirty minutes are allowed as neutral time at controls.'

"Too many times during the past season have I seen notices and received application blanks of so-called endurance contests over a course of 150 or two hundred miles. The limit of 300 miles is none too long. In the old days of cycling it was a common enough thing to have a double century, therefore we motorcyclists certainly should call nothing less than 300 miles by such a dignified name as endurance contest. We certainly cannot expect the general public to have much respect for the reliability of the modern motorcycle when we call a 150 mile jaunt by any such high sounding title. I shall be much indebted to any of your readers if they will call my attention to any violation of this rule in the future.

"Very truly yours,
"EARLE L. OVINGTON,
"President, F. A. M.
"New York."

THREE MOTORCYCLE EVENTS AT DAYTONA MEET

THE seventh annual international beach races, at Daytona Beach, Florida, will be held from March 23 to 26. The meet, promoted by the Motor Contest Association (W. J. Morgan, manager) will be conducted under the patronage of the Florida East Coast Automobile Association, under the rules and with the sanction of the American Automobile Association, the Automobile Club of America, the Federation of American Motorcyclists and the National Cycling Association.

There will be twenty-two events, three of which will be for motorcycles, as follows: One hour motorcycle record race, to beat the record of sixty-seven miles, 1,655 yards made recently by Collier on the Brooklands track in England; standing start, two classes, 30-50 and 61 cubic inches piston displacement, F. A. M. rules. Prizes: Silver shield to first; bronze shield to second. Entry fee, $5.

Motorcycle Marathon, 100 miles; two classes, 30.50 and 61 cubic inches piston displacement. F. A. M. rules. Prizes: Gold, silver and bronze medals. Entry fee, $5.

Motorcycle speed trials, kilometer, mile, five and ten miles.

The exact time of starting each event will depend on the tide and condition of the beach. The course is a ten-mile straightaway, with loops at either end, affording a circuit or lap of approximately twenty miles. The meeting, or any race or races, are subject to postponement in case of stormy weather or inability to complete the program within the specified time. All races, as far as possible, will be started and finished at the club house of the Florida East Coast Automobile Association, at Daytona, where the grand stand and officials will be located.

The clerk of the course will designate an enclosure at which contestants will assemble. All competitors must be at the place designated at least thirty minutes before the time the event in which they are entered is scheduled to start. All contestants in open events may be subject to weighing and examination before and after competing. In case there are more cars entered in any race of 100 miles or over than the referee deems safe to start at one time, he shall start them in such order as he deems proper.

Certificates will be awarded to each contestant in the record trials, officially certifying the time made by the recipient. All races at this meeting will be confined to white male drivers, eighteen years of age or over. The right to refuse any entry without stating the reason is reserved by the manager. There must be four starters in every race, or prize list value will be reduced one-half.

The Kansas City Races

THE following is a summary of the six-day motor events which recently took place in Kansas City, Mo.:

Sunday—Two mile exhibition, Indian; time, 3.03. One mile exhibition, N. S. U.; time, 1.20. Hill withdrew in the third mile of a five mile race on account of a broken saddle; he was then well in the lead.

Monday—One mile exhibition, Lindle on an Indian; time, 1.24. Hill withdrew again on account of a nail in the rear tire; he was in the second lap of a five mile race and was again in the lead.

Tuesday—One mile, by Indian, in 1.26. N. S. U. defeated in a five mile race in 6.50.

Wednesday—Two mile motor paced exhibition, Hunter on the N. S. U. paced Fogler. The time was 3.05.

Thursday—One mile exhibition by Lindle on an Indian; time, 1.17. N. S. U. defeated the Indian, two miles in 2.43.

Friday—One mile by Lindle in 1.24; one mile by Hill in 1.20. Two mile motor paced race by Wiley and Fogler. Hunter on the N. S. U. paced Fogler, and Hill on the Indian paced Wiley. Fogler won.

Saturday—No motor events.

Indian Wins in Cuba

AT the opening of the annual carnival in Havana, Cuba, Sunday, February 14, over 25,000 people witnessed the most successful series of automobile and motorcycle races ever held on the driveway of the Malecon. The motorcycle races (ridden by owners), being a special feature of the day, were pulled off first, and thousands of enthusiastic spectators cheered as the riders passed around the sharp curves and down the mile stretch at full speed. Five machines were in the lineup for the first race—three Peugeots, 3½ h.; one Curtiss, 3½ h., and one Indian, 2¼ h. The first race was easily won by Mr. Holtzclaw, on a 2¼-h. Indian. He covered the distance of ten kilometers in ten minutes. This is excellent time, since it was necessary to cover the course six times and make a short turn at each end. This was the first time that any American machines had entered in the annual event. Out of five machines to start, the Indian was the only one to finish, wiping out the impression of the people here that the American machines were inferior to foreign because of their smaller size.

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GLOBE-GIRDLING BELGIAN NOW IN CUBA

ROBERT HAMLICH, a Belgian, who is riding around the world on a motorcycle, has left New Orleans, and is now in Cuba. Hamlich left Brussels last August, and expects to complete his globe girdling tour in fifteen months. Speaking of his trip, as he sat in a New Orleans hotel, Hamlich said:

"I have had a fine journey, although the sandy roads of the Southwest, between Los Angeles and this city, are rather hard to negotiate. I came to New York by steamer and cycled across the country to Chicago, thence up through the Northwest to Seattle. Turning down the coast, I visited San Francisco and Los Angeles, and from that point rode through to Texas, and finally into the state of Louisiana.

"After touring Cuba, I will visit several countries in South America, and then I shall sail for Japan. After a brief stay in the empire of the Mikado, I shall go to Manchuria, then through Siberia, Asiatic Russia, and thus to Europe and back to my native land. I expect to complete the trip in fifteen months.

"I have found that the motorcycle, instead of being a "cranky" piece of mechanism, can be depended upon to do its duty under almost any circumstances. It is really more reliable than any other means of transportation, and as for its adapting itself to every kind of environment, there is simply nothing to compare with it. My faith in the motorcycle has been deepened materially as a result of this journey."

First Meet of the Season

SAN FRANCISCO.—The San Francisco motorcyclists held their initial race meet along the beach, about two miles below the Cliff House, February 14, but owing to the rain but six races were pulled off. There was a large number of enthusiastic motorists present, and the races were of the sharp and snappy kind. A. Chelini caused considerable comment in a match race with H. Lorenson by making one of the closest finishes ever witnessed in a motorcycle race. Lorenson, riding a 7-h. Indian, was led over the way for the mile and Chelini was only passed at the tape, being beaten by about two feet. Chelini rode a 4-h. Thor. The following is a summary, all the races being over a one-mile course:

First Race—H. Lorenson, first, 7-h. Indian; H. Chelini, second, 4-h. Thor; W. Collins, third, 5-h. Indian.

Second Race—Match race. H. Lorenson, first, 7-h. Indian; A. Chelini, second, 4-h. Thor.

Third Race—E. Stone, first, 3-h. Thor; L. Heise, second, 3-h. Merkel.

Fourth Race—H. Koschnetzsky, first, 5-h. Thor; Dr. Letcher, second, 5-h. Indian.

Fifth Race—H. Koschnetzsky, first, 5-h. Thor; Dr. Letcher, second, 5-h. Indian.

Sixth Race—L. Heise, first, 3-h. Merkel; E. Stone, second, 3-h. Thor.

Fine Tracks in Milwaukee

MILWAUKEE, Wis., motorcyclists intend to make things hum in that city this year. At least two endurance contests, a hill climb and a number of races are contemplated. With such a mile track as the one at the State Fairgrounds at the local club's disposal, there is no reason why any number of world's records should not go by the boards. While it is not banked very much, the well proportioned turns make for reasonable safety at high speed.

Barney Oldfield, in speaking of this track, said that with a possible single exception, there was not a better one in this country. He made a mile in fifty-six seconds on it in 1907, and motorcycles have reeled off mile after mile on it when it was in wretched condition at a speed greater than sixty miles an hour.

Besides the State Fair track, the recently completed Washington Park half mile track will be opened to motorcyclists and bicyclists as well as to horsemen this year. This is well banked, and should prove safe enough for single cylinder machines, provided tread tires are used.

The Massachusetts courts have decided that cities and towns have the right to exclude automobiles from any street desired.

Danville Hill Climb in June

DANVILLE, Ind.—The Danville Motorcycling Club will hold its second annual hill climb at Newport, Ind., in June. The Newport hill is 2,300 feet long, and has a total ascent of 139 feet. There will be four events, as follows: No. 1, cylinder displacement of 20.10 or less; No. 2, 30.10 or less; No. 3, 50.10 or less; No. 4, free-for-all. The entrance fee is $2, and the entry list will close at 9 a. m., April 30. Amateurs only will be admitted, and all contestants must weigh in at the Newport city scales by noon of the day of the climb.

The town of Newport has raised a fund to make the hill as smooth as a floor, and all who attend this climb will find Newport, Indiana, although a small town, one of the most hospitable in the United States. The climb will be sanctioned by the F. A. M. All who wish entry blanks should write Herbert L. Miller, Chairman of the Competition Committee, and they will be forthcoming in any quantity desired.

Fred S. Haas is Anxious

FRED S. HAAS, of St. Paul, winner of all the races in this section in 1908, including the ten-mile race during Shriners' week, the ten-mile handicap during the automobile day races at the fair, and the Minneapolis road race is just waiting for the snow to disappear to start slashing records again, and he intends to reel off some fast miles in 1909. He intends to enter all races during the year and will make an attempt to lower the world's record. Mr. Haas has a brand-new 7-h. machine of the same make as he rode last year and expects his new speeder to deliver the goods.

THE Long Island Motor Parkway, Incorporated, contemplates increasing its capital stock from $500,000 to $1,000,000, to reduce the membership of its board of directors from twenty-six to twelve and to extend the parkway to the north from Meadowbrook across the Jericho turnpike, near the Livingston Beekman place; thence south to the estate of W. K. Vanderbilt, Jr., at Lake Success, and through his property at Deepdale to Little Neck. From this point motorists may use Broadway to Flushing, Elmhurst and the Blackwells Island Bridge.

PHILADELPHIA.—Secretary E. T. Banes has succeeded in securing Point Breeze one mile track for the Quaker City Motorcycle Club's race meets of 1909. Mr. Hugh McAnany has provided the Quaker club with quarters in which to meet. W. G. Rhodes, the R-S agent in Philadelphia, has been an able assistant to Banes in handling the past race meets in Philadelphia, and under the management of these two men the Quaker City club should have some good racing.

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N. Y. CLUB'S QUARTERLY TRIALS

A SERIES of Quarterly Trials will be held during the current year by the New York Motorcycle Club. Rules governing the running of the first of these, to be held on March 14, were laid out at a meeting of the club's Contest Committee on Thursday of last week. The plan is to make economy, reliability, hill climbing, silence and a brake test all count in the final award. The purpose is to evolve a perfect touring motorcycle, that is, to bring out all the strong and weak points in every machine entered, and thus secure an accurate record of performances under ordinary road conditions that should prove of great value to manufacturers as well as individual riders. The course has been laid out over the New York-Poughkeepsie route, which is seventy-four miles one way, and the time schedule is set at fifteen miles per hour. Check-in points will be established, tanks will be sealed, two hills will be tried (one each way) and other tests of more or less difficult nature are planned.

The succeeding contests will be held on June 13, September 12 and December 12. It has been decided to fix the entrance fees at two dollars for each of the four trials. The events will be for open competition; sanction has already been granted by the F. A. M. Medals will be awarded to the riders finishing with a score above 800 points in each trial, and some handsome silver cups will be the prizes to the finishers with the highest scores at the end of the year. The course is familiar to nearly all local riders, and it is conceded to be one of the very best that could be picked out for an event of this kind. It offers all conditions for riding—hills, good and only passable roads, through cities, etc.; in fact it furnishes the usual touring conditions.

The club has made elaborate plans to keep things moving in a lively manner during the whole year. With its Quarterly Trials, the annual Fort George Hill Climb (which has become more of a national event than a local affair), its Spring Century, which will be held on Long Island May 9, and a number of race meets that are planned for the Morris Park racetrack, the members are assured of plenty of "doings" all year round.

ENGLISH QUARTERLY ENDURANCE RUNS

EVERY quarter—viz., in January, April, July and October—our governing body holds a short endurance trial of about 125 miles, over a stiffish course, embracing two abnormally long and steep hills. Marks are awarded to all machines, chiefly on the basis of the non-stop and the timed hill climbs, and at the end of the year a silver cup is awarded to the rider who has earned the most marks in all four trials. The value of these very popular trials is twofold. First, they provide any maker who has a really novel and startling machine a chance for exhibiting and advertising its running powers. Were it not for these trials he would have to wait until the annual 1,000 Miles Trial in July, by which time the selling season is almost over. The trials are very hotly contested—the fastest time up the two hills each quarter is one of our most coveted distinctions—and they are well boomed in the press, so that at small expense the inventor of anything rather hot gets a top notch advertisement. Secondly, they are a splendid training ground for amateur endurance riders. The keen novice who mistrusts his powers and dare not venture on a 1,000 miles trial gets his early experience in the quarterlies, and finally acquires nerve enough to make a splash in the big annual. This is a fine thing for the trade all round, and we are cultivating such a big class of reliable amateur trial riders that the professional element may shortly disappear from our trials altogether. For instance, in our last End to End no less than twenty Triumphs finished out of twenty starters, and only three of the riders were professionals. This means less expense to the trade, and a far bigger advertisement, for nothing sells a machine so fast as for it to be known as "the jigger on which amateurs win."

A Good Test Hill.

Hill climbing contests got into rather a bad way over here last fall, for our motorcycle engines are developing into such hot little tabloids of compressed energy that they ascend the worst hills we can find at fifty miles an hour, and few of our amateur riders like lying over till their nearside cheek almost scrapes the roadway in order to round unbanked V corners at such a high bat. Several plans are on the carpet for minimizing the dangers and so restoring enlarged entries. One is to employ the standing start at the toe of a stiff grade, which effectually robs the best engine of half its ginger. Another is to devise stopping and starting tests. The machines are dispatched up half a mile of, say, 1 in 10, as a preliminary, no time being taken. They are then stopped by flagmen between two chalk lines on a grade of equal severity, and on receiving their "Go" from the timekeeper, the rider has to start his engine and get to the summit as fast as he can scratch. These events degenerate into an exhibition of cruelty to animals, and the heavyweights amongst us get our own back on the midget jockeys employed as "pros." by the trade, for it is a rare sight to watch a 120 pound boy wrestling with a 200 pound twin on a 10 per cent. grade. A far more interesting and useful stop-and-start test has resulted from the tremendous popularization of variable gears, and these will figure in many big climbs next season; in this case the machine is stopped on the free engine, and must restart on the clutch. We are now cock-a-hoop because a special test hill is being excavated out of a young precipice on Brooklands track, and it is hoped to obtain a half mile track graded to 1 in 3, which will puzzle our stalwarts some.

270 Miles in Six Hours.

We are rather proud of our latest prolonged speed record, H. V. Colver having reeled off 270 miles, 1,170 yards in six hours on a 6-h. Jap. The time is the more meritorious, as achieved in spite of six separate stops to change tires, during two of which his staff of helpers were rather clumsy and wasted valuable time. He traveled the whole distance with the engine running well within itself, as the walls of his tires were not stiff enough, and they rolled a lot whenever he tried to open his throttle. We are confidently expecting to see 300 miles done in the time during next season, and if only a pair of tires could be found which would last the distance, this ambition would be fulfilled at once. It is interesting to notice that the engine was only run for about a quarter of an hour, previous to starting on its long record, during which it accomplished about 500,000 revolutions without a single misfire. But it was rough on young Godfrey, who had won the record a week or two earlier on his Rex, almost getting his stomach frostbitten by the intense cold during his prolonged ride.

Colver's remarkable record was made on the Canning Town track, the fast Englishman starting on his long grind of nearly 300 miles at 10.16 a. m. The day was fine and cold, and there was very little wind, while the weather conditions were wonderfully good for the time of the year. The machine ran most consistently, and Colver rode particularly well. He made no attempts at very great

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speed, the object being merely to better Godfrey's time. Colver stopped six times in all. At ninety-eight miles to change tires and fill up; at 144 miles, at 159, at 195 miles and at 203 miles to change tires; at 241 miles he stopped for the same reason, but the wheel was carelessly put in and improperly adjusted, so that the belt slipped, necessitating his stopping almost immediately afterward. The belt was quickly tightened by taking up a link in the chain of Collier's patent belt fastener. The following are the number of miles covered at the end of each hour: First hour, 47 miles 690 yards; second hour, 96 miles 110 yards; third hour, 138 miles 1,120 yards; fourth hour, 181 miles 1,070 yards; fifth hour, 226 miles 1,660 yards; sixth hour, 270 miles 1,170 yards. Average speed 45 miles 195 yards per hour.

To Try for 24-Hour Record

FEW are aware that H. A. Collier, the English rider, has great ambitions to set up a twenty-four hours' world's motorcycle record on the track. The longest existing record at present is the twelve hours created by A. Anzani at the Parc des Princes track, Paris, on July 13, 1903, the distance covered being 434 miles, 425 yards. Naturally, Collier was anxious to make the attempt on the Brooklands track, but he has just received a communication from Major Lindsay Lloyd to the effect that the Brooklands committee, at its last meeting, decided that permission cannot be given for a twenty-four hours' record attempt. The B. A. R. C. committee was, of course, influenced in the decision by the position taken up by the prosecution in the legal actions a few months ago. Residents near to the track complained specially of the nuisance caused by the noise of the motors during the night on the occasion of the twenty-four hours' car record.

COLLIER, THE ENGLISH SPEEDSTER.

Despite the decision of the B. A. R. C. committee, Collier does not intend to let the matter drop, and authorizes the statement that he will make the attempt at the Stadium or on Canning Town track. These tracks are not nearly so fast as Brooklands, but speeds of fifty to sixty miles per hour were accomplished many times during last year.

Preparations for a long distance record take some considerable time, but Collier hopes to be in a position to set up figures for twenty-four hours toward the end of May. At this period he would have the benefit of about eighteen hours' daylight. A special machine will be used.

THESE two gentlemen look rather comfortable when you consider the fact that this photograph was taken after they had ridden nearly five hundred miles, or, to be more exact, 475, the distance between Grand Rapids, Mich., and Mount Vernon, O., by way of Fort Wayne and Muncie, Ind. These two boys, the Houze brothers, of 12 Canal street, Grand Rapids, are ready to swear by the Wagner. They declare that their trip was uninterrupted by a single misadventure.

Collier's One-Hour Record

SOME misapprehension appears to exist with regard to the hour ride by C. R. Collier, the English rider, at Brooklands, and the Competitions Committee of the A. C. U. has pointed out that the original distance, as announced, of seventy miles 105 yards, was measured upon the fifty-foot line, which is that used by the cars, but the supplementary regulations of the A. C. U., as applied to the Brooklands Track, state that "the distance shall be measured ten feet from the inner edge." The committee, after a careful investigation, has found that the distance covered by Collier under this rule is sixty-eight miles 1,380 yards.

A Contented Family

A HAPPY trio, *n'est ce pas?* Incidentally, a healthy looking lot, the excellence of their physical condition being largely due, according to the pater familias, to the fact that he is the owner of a 3½-h. Bradley and sidecar, of which father, mother and child make very liberal use. The owner of this machine is E. H. Bonekemper, of 237 Duncannon street, Philadelphia. He is foreman of the Stetson hat shops in Philadelphia.

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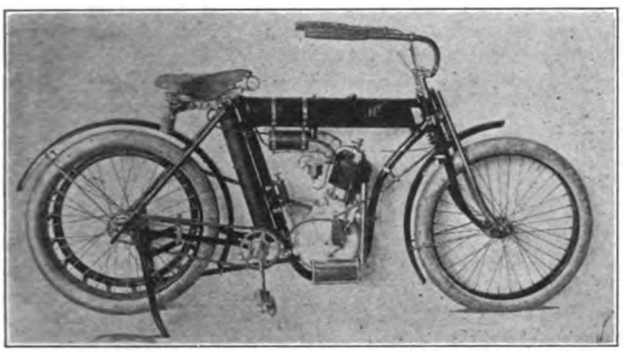
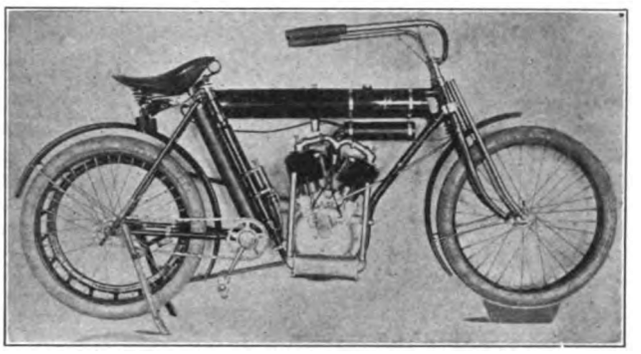
BOSTON SHOW TO BE A WINNER

THE great Boston Automobile Show, with the largest and most completely planned Motorcycle Department in the history of the trade, will throw open its doors to the public Saturday evening, March 6th. No expense has been spared to make the Boston exhibition the greatest in the history of autoing and motorcycling in the world. The mammoth structure known as Mechanics Building, as laid out for the coming show, provides an area of 125,000 square feet for exhibition purposes, making by far the greatest amount of floor space ever occupied by an exhibit of this character. The management of the Boston exhibit has worked in harmony with the Motorcycle Manufacturers' Association, and has been in constant touch with its most active members. The Motorcycle Section will occupy that part of the building designated as Department D, where the spaces have been divided to suit the exhibits of these machines. Practically every motorcycle manufacturer of note in the country will be represented, the following, seventeen in all, having taken spaces for the Show: Auto-Bi Company, American Motor Company, Aurora Automatic Machinery Company, Bi-Motor Equipment Company, Consolidated Manufacturing Company, Crouch Motor Company, Excelsior Supply Company, Harley-Davidson Motor Company, Hendee Manufacturing Company, Merkel-Light Motor Company, N. S. U. Motor Company, New Era Gas Engine Company, Ovington Motor Company, Pierce Cycle Company, Reading Standard Company, Reliance Motorcycle Company, Walton Motor Company.

Through the efforts of the Commonwealth Motorcycle Club, of Boston, the management of the Show is to feature a "Motorcycle Day." All motorcycle riders who present special cards issued by the management, and endorsed by the secretary of any motorcycle club, will be admitted at half rates. There will also be a meeting of motorcyclists, on the evening of the same day, in Paul Revere Hall, where an entertainment will be provided.

TWO OF THE ARMAC MODELS FOR 1909





ARMAC 3-H. SINGLE ROADSTER, AND ARMAC 6-H. TWIN, DESCRIBED IN CHICAGO SHOW NUMBER.

NEW YORK MOTORCYCLE POLICE MUST REPORT EVERY HOUR

THE following telephone order, sent to all district inspectors and to the borough inspector, Brooklyn, has sent consternation to the hearts of the motorcycle men, particularly those in Brooklyn:

"Hereafter motorcycle men attached to the borough inspector's office, while on patrol, will report each hour to the office to which they are attached, by telephone, giving location and number of telephone.

"By order of the Police Commissioner,

"(Signed) MOSES W. CORTRIGHT, Chief Inspector."

This order was aimed at the motorcycle men assigned to duty in Brooklyn and Queens. On account of the wide stretches of territory to cover, the men over there, up to about four weeks ago, had considerable latitude. They were asked to produce results rather than do the work of regular patrolmen, and they more than justified the confidence placed in them.

Inspector Schmittberger introduced the idea of assigning the men in Brooklyn to posts. That was put into effect some time ago. Now comes the order to report every hour, and the men are up in arms. Said one motorcycle "cop":

"The work of a motorcycle man is necessarily hazardous. Every time we set out after an automobile going thirty, forty or fifty miles an hour we take our lives in our hands. If we catch the speeder, well and good enough, but if seriously hurt all we get is, 'Well, he was foolish to take such a chance.' In the summer time we work eighteen and twenty hours a day. Are we not entitled to a rainy day off once in a while? Of course we are. These fellows don't want to think of these things. They never do. It's a case of hold your nose to the grindstone all the time. I'm sick of the job. Going back to the sidewalk, where I can be just a plain cop, and tell them all to go plump to ——." Anton B. Ennis, formerly of the Brooklyn Headquarters motorcycle squad, has been transferred from the Central Office to the Twelfth Inspection District for duty in Queens. Ennis lives at Far Rockaway and is quite at home in any part of Queens.

IT was definitely made known last week that R. S. Morton, Chairman of the F. A. M. Competition Committee, had made connections with the Hendee Manufacturing Company and that he will further the interests of that concern's sales department as a special traveling representative during the coming year. He has already gone to Springfield to take up his new duties. In reply to the question asked him whether he would resign his position as Chairman of the Competition Committee or not Mr. Morton stated positively, "No. Notwithstanding any rumors to the contrary, I intend to continue the work of that office in a more aggressive manner, if that is possible, than before."

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KINKS AND WRINKLES

On Gauges

AT the recent shows one fitting was conspicuous by its absence. I refer to really efficient gasoline and oil gauges. The method most commonly employed is a float either of hollow metal or cork, fixed to a wire which runs upward through the filler vent, this being generally "held down" by a small cap until released for inspection purposes. Sooner or later the cork becomes saturated or the float punctured and then the whole caboodle is a useless incubus.

Why not fit strong protected glass "sight gauges," oh ye manufacturers? It can be done and *has* been done, and the advantages are very great. I have used these gauges in a gasoline consumption trial and the advantage of being able at a glance to see how my level of gasoline stood helped me tremendously. Again, who has not been stranded, miles from anywhere, with no gasoline? Would not an efficient gauge have saved that weary tramp and those many adjectives?

I can remember, too, one happy occasion when I ran out of lubricating oil—twenty miles from any large town. I succeeded in buying some "salad" oil at a miniature general store in a village and made the whole countryside smell like a cheap Italian restaurant, and indeed, in the end, would probably have "seized" my engine had I not met with a brother motorcyclist who, like the wise virgins, was well supplied with oil. Perfection in detail is what we all wish for, so a "kink" to a manufacturer may be productive of good fruit.

A Sidecar Tip

The "rigid" pattern of sidecar has a novelty all of its own. Few owners of these delightful passenger machines know the stunt of riding in the sidecar alone and driving the motorcycle from its comfortable seat. This was even possible with the short handlebar motorcycle, but in these days of long bars and grip control the trick is much easier and well worth cultivating, as it has a peculiar charm of its own.

For the initial trial, select a nice, quiet stretch of road, as this is, peradventure, essential for such acts. Run alongside the machine on the "sidecar" side, and when she starts step gracefully into the sidecar, and you will find that the driving part is very easy, and with long handlebars and grip control, the whole turnout is as easily handled as an automobile.

Care should be taken in rounding corners, and also it may be necessary to point out that the rider should be careful to step *into* the sidecar—not underneath it, as the latter procedure contributes largely to the amusement of any chance spectator.

The Reason for an Old Custom

It often is asked nowadays how the English "rule of the road," namely, that of keeping to left hand side of the roadway, came into being. Conservatism has for long been the British keynote in many matters, and it is interesting to note that this custom of the left hand side dates right back from the old feudal days. The idea was this: a rider on horseback, keeping to the left hand side of the road, had his lance arm free to tilt at any chance foeman. When this custom became changed on the Continent, no records show. Would that we had a "left hand side" rule here, so that we could "tilt" any overzealous copper off the map!

Prevention of Oil Leakage

There is a time when some motorcycles develop the oil leaking malady to an annoying extent. Of course in such a case the first thing to examine is the compression release valve fitted to the crank case, as, if this is not working as it should, the trouble may be located there forthwith. But it often happens—though of course it shouldn't—that the cause of the evil is a worn bearing.

Now, on testing the amount of "shake" in the bearing one finds that it is not enough to call for immediate rebushing and therefore if one can put off the expense of this for a time it would be welcome. Buy a few large felt washers and insert one between the pulley or sprocket and the crank case and for a time this will stop the leakage. If renewed occasionally the rebushing can be procrastinated (that's a good word!) for some time.

Also the thicker the oil, the less chance there is for any undue leakage, and if this is "administered" in half pumpfuls instead of full ones, at more frequent intervals than one would use in giving the full charge, the trouble disappears, for a time at least.

On Valve Tappet Adjustment

A good tip to remember in searching for elusive lost power in the engine is to test the valve opening mechanism, and thus, perhaps, save much time and temper. An excellent "wheeze" for detecting a worn plunger rod or tappet or wear at the base of the valve stem is as follows: Start up the machine on the stand and insert the thin end of the blade of a "common or garden" household knife between the tappet and stem. Slide this between the surfaces and listen for the best "position" or thickness of the blade as the engine runs. If the surfaces are worn, a great difference and a sudden engine acceleration is at once apparent, and one can mark the "best position" on the knife blade and therefore determine how much additional lift is required. With an adjustable tappet the rest is easy after this quick testing method, as one knows just how much wear to take up.

With a non-adjustable type a metal cap shaped like a revolver cartridge can be fitted over the tappet head, the head of the cap being the required thickness, all that is necessary to do to fix this being the raising of the valve stem. These tappet caps cannot come off and, if made from anything solid, never break. It is a good practice for tourists to carry a "cap" or two, which can easily be made up by any machinist from round solid stock about one-half to three-quarters inches long and drilled out larger than the diameter of the tappet. Then if a valve wears unduly on an extended tour, any local man can drill the cap out further to the required thickness. Do this, and some day you will bless your foresight for having done so.

Lamps

At the show I was struck by the many excellent examples of motorcycle lamps exhibited. A good lamp saves its initial cost many times over, "quod erat demonstrandum," as that guy Euclid was wont to remark. Who has not tested the irresistible force theory in his motorcycling career with dire results?

The safest thing I have ever hit at night was a basket full of newly washed clothes of the feminine species. The basket, or "pram," was propelled by a 40-horsepower female of large proportions—about three laps to the mile in circumference. Needless to say she deserted her post

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at the helm when I struck the vehicle amidships, but returned from her haven in the hedge to claim compensation—which, to avoid being maltreated, I paid. And the sum total would have bought a good lamp! Be wise, oh brethren of the steed of steel!

On Sideslips

The merry springtime will be with us soon, and also the mud which hails its gladsome advent. Now who has not suffered from a sideslip? I think most of us have at times transferred real estate from the roadway onto our clothes; so a few hints on grease riding will not come amiss at this season.

If possible, ride as near the center of the road as you can, but avoid the car track, if there is one, as it means crossing treacherous car lines too often to spell security. When you have to cross the car tracks, do so at as big an angle as possible and avoid sharp turns when you are safely across.

When one has to ride on the "camber" of the roadbed keep the right hand pedal down and put some weight on it. In taking a treacherous corner go slowly at it, keep the *outside* pedal down—I mean the outer pedal on turning either way. Lean slightly *out*, not in, as in the ordinary fair weather way.

A nervous rider nearly always comes off worst in greasy weather, for a man who drives at a steady space and rarely switches off generally counteracts any tendency to slip by the impetus and weight of the machine. By this type of driving one can often feel the back wheel "sailing" in the mud from side to side and never come over.

It is the bad front wheel slip that counts—then both wheels seem to go in different directions and the rider spreads himself over the surrounding landscape. There is no remedy for this, though a good, healthy vocabulary helps matters considerably. Friend Ovington is a fine inventor of words, and perhaps he can supply our needs with something appropriate for an occasion like this.

A Good Policy

Some time ago one of the leading English manufacturing houses adopted the policy of giving each machine a thorough road test before it was permitted to leave the factory. Not only this, but every motorcycle sold has a certificate giving its actual brake horsepower, its hill-climbing capacity and its maximum speed. This scheme seems excellent from both the rider's and the manufacturer's point of view, as the former knows what he is buying and the latter, besides getting a neat advertisement, knows that he is selling a thoroughly tested article. Many other firms test their engines thoroughly, the N. S. U. people in particular having a fine bench testing scheme which practically answers the same purpose from the manufacturer's point of view, but the certificated road test looks to be a thing worthy of consideration, as a new motorcycle should not need "tuning up."

A Useful Contact File

The very handiest and best tool for facing small contacts, such as magneto machines boast, or even the ordinary battery ignition contacts, is a jeweler's file. A few cents will purchase this handy adjunct to the kit, and in the words of the advertisement, "once used, never forgotten." Another handy thing in the tool kit is a roll of one-sixteenth-inch copper wire. Many a temporary repair can be made with this, and it saves one's conscience from the remembrance of having robbed some farmer's fence of this useful material. In the novice's tool kit a roll of greenbacks should also be included, as the railroad fares run high in "tyro" days.

BORN OF ORIGINALITY AND INVENTIVENESS

AURORA, Ill.—Magnus Anderson, a machinist employed at the Appleton Manufacturing Company shops, has recently invented a motorcycle seat-post which is creating much favorable comment among cyclists and mechanics. Mr. Anderson has retained Attorney William G. Blomstran, of Maywood, one of the best patent lawyers in this part of the State, and will proceed to secure a patent right on his invention.

The invention consists of a spring device, doing away altogether with the present style saddle post and thereby making the seat absolutely vibration-proof. The greatest discomfort experienced by cyclists is the vibration from roughness of roads and the invention, which is simple in construction and, under the severest of tests practically indestructible, will be a boon to the cycle-riding public, and it is predicted that it will become of much value when placed on the market.

TO be able to detach the whole of the front portion of a motorcycle, including the tank, front wheel and a good part of the frame, leaving the engine *in situ*, is a novel feature which has been introduced by a Manchester (England) manufacturer. The top tube, middle tube, seat tube and down tube form one unit of the frame, while the remaining portion is made up of the chain stays, back stays and cradle. The latter does not extend all round the crank case. A joint is provided at the top of the back stays and seat tube, another at the intersection of the seat tube and cradle, and a third at the extremity of the down tube where it meets the crank case. Bolts pass through the frame at these points, and are held in place by nuts, which must be screwed up tightly to prevent movement. The two portions of the machine can be separated by simply undoing the nuts which secure the three bolts and detaching the control levers and lubricating pipe. The engine, rear frame and wheel can be lifted up onto a bench, making it a matter of great ease to dismantle any part of the engine, such as removing the cylinders to scrape the pistons, grinding the valves, etc.

The manufacturers say that it is impossible for any of the joints to work loose, as the bolts that pass through the frame can be screwed up tight enough to prevent the slightest movement.

H. F. FARNSWORTH, of Chehalis, in the state of Washington, a practical machinist, is working on an improved motorcycle, which he claims is a radical departure from the regular type. The machine he is constructing is really a combination of a motorcycle and automobile. Instead of the two wheels being connected with tubing, there is a platform eighteen inches wide by seven feet long, hung at each end on springs. A little back of the center is located the cushioned seat, and a steering wheel similar to one on an automobile rises in front of the seat. The bonnet usually found over the engines of an automobile in this machine is placed over the front wheel, and is used to hold parcels. Two foot levers on the floor of the platform operate the brakes. One operates a brake on the rear wheel and the other is contrived to connect, by means of a sliding wheel, with the face of the fly wheel, and by friction five or six speeds may be secured. Rising at the side of the center of the platform is an arrangement which operates two small wheels, which may be lowered to the ground or raised out of the way. These little wheels are for use when stopping or starting the machine, and when running at low speed. The machine is built to give at least four horsepower.

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FROM OTHER POINTS OF VIEW

The Growth of Motorcycling

THERE is no possible mistaking the sound growth and popularity of the motorcycle. Within the past two years it has jumped from a practically unknown sport and recreation to one of the largest phases of the new era of pleasure travel; it must grow, it will grow. Think of a mechanically propelled vehicle, comfortable and reliable, which will carry a man a distance of 205 miles with an expense for fuel of but 27 cents, which needs practically no care, and requires for storage space a portion of one's hallway, six by two feet.

A few years ago the sport was looked upon by the general public as more or less of a public nuisance; the motorcycle then was very, very slowly creeping into prominence, with more or less setbacks provided by individual riders, who seemed to think that their appearance while motoring necessitated the use of their oldest wardrobe which was on the verge of collapse; consequently, these little conveyers of man were the center of a much-talked-of nuisance, which was further agitated by the rider's regardlessness of the sensitiveness of man or beast. They would ride in city or open country with their mufflers cut out, or in numerous cases absolutely devoid of muffling attachment. In some instances it was the rider's desire for noise, or to bring attention to the fact that he owned a motorcycle; in other instances it was the owner's desire for more power; but whichever the case, this offense in principle and in conjunction with that of unsuitable attire has done more to retard the advancement of motorcycling in general than all other arguments combined.

Most of the machines on the market today are built and equipped to run quietly, and will do so if the rider will refrain from tinkering with his muffler in a foolish attempt to gain power from that source. The results in nine cases out of ten are futile; his desire is, however, to relieve the motor of the seeming back pressure developed in the muffler by the harboring of the burnt gases and exhaust and allowing them to enter into the free air slowly and therefore noiselessly. There are a few manufacturers who have sensibly provided for 1909 a most efficient muffler, but, on the other hand, have foolishly attached the cutout, which will be more abused than necessarily used; what the rider will gain in power is more than lost on the harm done by public sentiment and loss of self-respect.

With the help of very neat attachment termed tri-cars or side-cars the two-wheeler can be quickly and neatly converted into an exceedingly comfortable and practical passenger vehicle that will give all the joys and comforts of automobiling at a minimum cost, and would be far better fitted for the man who, after he buys his automobile to spite his neighbor of "only a motorcycle" fame, necessarily has to mortgage his home to meet the enormous running expenses and repair bills.—Albert H. Bartsch, in *Harper's Weekly*.

Unstinted Praise

CHICAGO.—The prediction is being freely made, says the *Examiner*, of this city, that within the next three years there will be as many motorcycles used as when the bicycle craze was at its height. Already the people are beginning to appreciate the two-wheeled motor car, and in some parts of the country, especially on the Pacific Coast, where virtually all-the-year-round riding can be enjoyed, there are hundreds of machines in daily use. Los Angeles, Cal., holds the palm at present, and it claims to be the greatest motorcycle city of the world.

The acceptance of the motorcycle is due to the improvements being made in the machine both in appearance and cleanliness. The new machines are constructed along graceful lines; the machinery has been simplified and can be easily controlled. The riding qualities have been improved and the jerking, disagreeable noises which made the first models unsightly and uncomfortable, have been done away with.

One of the new things which makes the manufacturer pleased with the future prospects is the growing demand for the tandem, which means that the women are going to be introduced to the new vehicle and that the revival of the social clubs and events of the old "bike" days is beginning.

T. A. Skinner of the Excelsior Supply Company, who has just returned from the Pacific Coast, says "the machines are getting as thick as flies in some cities." He predicts great things for the trade during the coming year and declares the demand will increase each succeeding year until thousands of people of all ages and classes will be owners and riders.

The manufacturers of the motorcycle have been anticipating a heavy business and they are prepared to give the people just what they want.

A Factor in Commerce

SAYS the Brooklyn Eagle:—"Practical usage has made the motorcycle a factor in commercial work. The year 1908 was a good one for the business. It is impossible to state what the volume might have been had times been normal, but, considering the conditions that prevailed, the sale of the two wheeler was nothing short of marvelous. During the summer months nearly every factory in the United States was taxed to its limit to supply the demand.

"Mining men, superintendents of telephone lines and others have found the motorcycle a great help and a means of getting quickly and economically to outlying distances, some of which are almost impassable for ordinary vehicles.

"It is a common remark heard from people who are not familiar with the construction of a motorcycle, that were it not for the noise they would rather like it. The noise that a motorcycle makes when the muffler is closed is not in the least annoying, and the general public should take notice of the fact that it is the rider and not the maker of the machine who is to be blamed for the unreasonable and unnecessary noise that some of them make when used on the streets or country roads. The "green" rider is usually the greatest offender in this way, and he is disliked as much by the older riders as he is by the public in general."

MOTORCYCLING is gradually but surely gaining favor with the fair sex, and those who have already taken it up are fortunately the kind who are likely to win converts by the graceful appearance they present on their wheels. One of the recent additions to the list of female motorcyclists is Miss Effie Woodsome, of New Bedford, Mass., who rides an Indian.

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CLUB NEWS

IN order to build a club house and look after the annual meet of the Federation of American Motorcyclists, which will be held in Indianapolis this year, the Indiana Motorcycle Club has just been incorporated. The company has no capital stock, having been organized under the voluntary association act of Indiana.

The club has had an active existence since it was organized last spring, and now has about seventy-five members with prospects of doubling its membership within the next few weeks. The club is now located at 115 West Maryland street, Indianapolis, but expects to erect a club house of its own soon.

The club has elected the following officers: Charles Wyatt, President; H. L. Dipple, a motorcycle dealer, Vice-President; Robert H. Sturm, with the G. A. Detch Wheel Company, Secretary, and Harry Gray, Treasurer. The officers, with G. H. Hamilton, of the G & J Tire Company, and F. I. Willis, of the Hearsey-Willis Company, constitute the Board of Directors.

While the membership is composed largely of Indianapolis riders, it is open to all Indiana motorcyclists, and quite a number have already joined. An aggressive campaign for membership is to be waged at once all over Indiana.

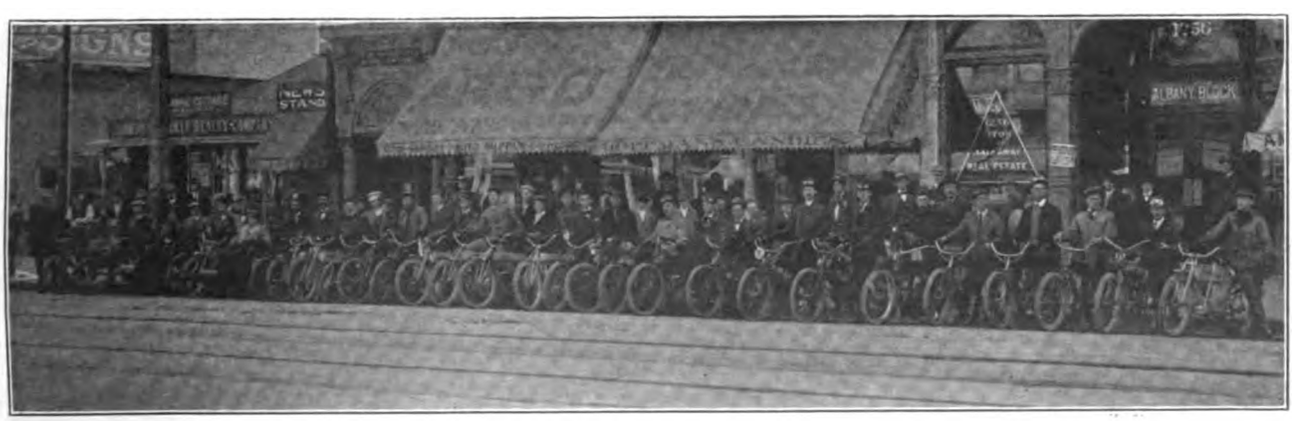
NEW HAVEN.—The New Haven Motorcycle Club has elected the following officers: President, Edward Brereton; Vice-President, C. W. Hulse; Secretary and Treasurer, J. W. Wildman; Executive Committee consists of the President, Vice-President, Secretary and Treasurer, and J. P. Maley. The road officers are; Captain Peter Cox, First Leutenant F. B. Sloan, Second Lieutenant James Pastore. The club, which was organized last fall, is steadily progressing. There is now a membership of nineteen, and meetings are held once a month in the club rooms. The 1909 outlook is very bright and the club hopes to have hill climbs and races, as there is talk of a fast track being built nearby.

WORCESTER, Mass.—Members of Worcester Motorcycle Club went to the lower end of the lake, recently, to inspect the club house favorably reported on by the committee named to consider the plan of engaging a house. The members were so well pleased with the club house that they voted on the spot to rent the building. The building is of cement, a two story structure provided with two large rooms; each is 25 x 40 feet. The motorcycle club will use the upper room as the meeting room. Half of the lower room will be used for stabling the motorcycles of members, and the other half as a boat room. It is convenient to the water, not more than twenty-five feet distant. The club will install a fireplace in the upper room.

The March meeting of the club will be in the new house. The committee, which will be known as the house committee and have charge of the club house, is as follows: E. R. Creamer, J. M. Amsden, Charles E. Hitchcock, W. H. Tannebring and H. E. Davis.

The club will occupy one-half of the building, which is of concrete construction. The upper floor will be used as a meeting room, and when not utilized for the conduct of the club's regular business on meeting nights, will be used as a social and lounging room.

MOTORCYCLISTS of Port Chester met in George Kapp's store recently and formed a permanent club, officers being elected as follows: Captain, Frank Miller; First Lieutenant, George Pinckney; Second Lieutenant, Daniel Purdy; Secretary, Clarence Wilson; Treasurer, Joseph Kapp. Initiation fees and monthly dues were fixed and other business transacted. It is evident that there will be "things doing" in the racing and touring line in that vicinity as soon as spring opens. It is the purpose of the club to start an active campaign among all riders in this and nearby towns in order to get them to join the local club.



THE CURTISS MOTORCYCLE CLUB OF OAKLAND CAL.

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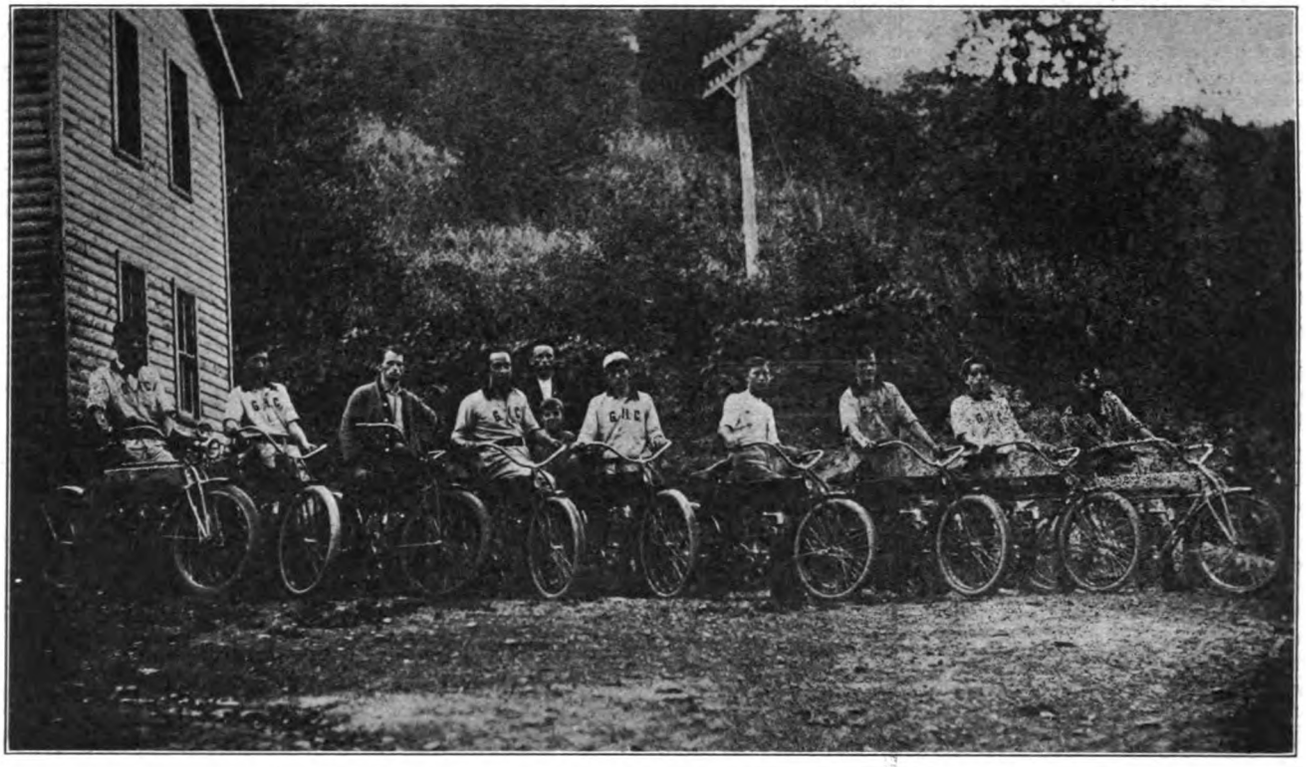
NEWARK, N. J.—The New Jersey Motorcycle Club held an enthusiastic meeting at the Continental Hotel on the evening of February 9. Further plans were started for a Decoration Day event, the exact nature of which will be determined at the next meeting. Mr. R. S. Morton, chairman of the Competition Committee of the F. A. M., addressed the members of the club on the advantages of affiliating with the F. A. M., and it is more than likely that at its next meeting the club will join the big motoring organization. Mr. W. E. Mann, of Boston, who is the Massachusetts commissioner of the F. A. M., and is also President of the Commonwealth Motorcycle Club of Boston, was a guest of the evening and gave a short talk on F. A. M. principles in general, with a recital of the work the organization is doing in Massachusetts toward simplifying motor laws.

MINNEAPOLIS, Minn.—A. T. Stata, President, and D. B. Green, Secretary of the local motorcycle club, have during the past year worked up considerable interest among the members of this organization, and ambitious plans are under consideration for the coming spring and summer. Rumor has it that the club will set about building for itself a permanent club house to be used exclusively by the club members and their friends but not much of the plans have been made public thus far. It is gratifying to the many riders in the Twin Cities and to the club members also, to see the growing interest in the motorcycle game. This is evidenced by the many exhibits of motorcycles which will be shown at the automobile show in the state armory March 13-20. Nearly all the well known makes of machines will be shown, and it is thought that these exhibits will do much to add to the interest in the two wheelers.



THE riders pictured herewith are distinctive in three ways—they are members of a club, they are all Curtiss men, and, finally, they constitute the baseball team of the G. H. Curtiss Manufacturing Company, of Hammondsport, N. Y. This illustration is that of last year's aggregation, which will be practically duplicated in the team now being organized so as to be in readiness for outdoor practice the first pleasant day after the frost has disappeared from the ground. The Curtiss players, as might be expected, use their motorcycles as a means of transportation from town to town during the baseball season. The nine holds the amateur championship for the Hammondsport section of the state, and expects to retain that distinction this year.

CINCINNATI, O.—Cincinnati's second motorcycle club, the Pioneer, has adopted a rule requiring the use of the closed muffler. At a recent meeting the club elected the following officers: President, Charles Laile, Jr.; Vice-President, Herman Wessel; Secretary, Fred Peacock; Treasurer, Ferdinand Stenger; Captain, William Wakefield; Lieutenant, Sherley E. Meyers.

"Cincinnati is far behind in motorcycling," said Mr. Laile. "We are going to try our best to catch up with other cities by holding races, endurance runs and tours the coming summer. There are about 100 men in Cincinnati who own motorcycles, and there will be as many more when the weather opens. The new organization will be affiliated with the national Federation of American Motorcyclists, and all the races and runs we will give will be under the sanction of the F. A. M."

INDIANAPOLIS, Ind.—At the recent annual meeting of the Indiana Motorcycle Club officers for the year were elected as follows: Charles Wyatt, President; A. L. Dipple, Vice-President; Robert Strum, Secretary; Harry Graff, Treasurer; G. H. Hamilton, F. I. Willis, L. M. Wainwright, Directors.

A new constitution and by-laws were adopted. It is the intention of the club to take out articles of incorporation. The local organization also will join the Federation of American Motorcyclists.

PORTLAND, Ore.—The Portland Motorcycle Club is the name of the latest organization in Oregon to appear among the lovers of gasoline engines and speeding vehicles. It has just been organized, with the following officers: E. W. Beeson, President; A. J. White, Vice-

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President; W. P. Brush, Secretary and Treasurer; Fred Nowotny, Press Agent.

The roads around Portland are of the very finest for motorcycling, and the sport gained a great many admirers last summer. Last summer the number of motorcycles in Portland was almost doubled, and there should be many new converts to the sport this spring and summer. Local racing will be taken up as soon as the roads dry, and will continue throughout the summer.

BUFFALO, N. Y.—The Ramblers Bicycle Club has organized a motorcycle section to further the interests of the motorcyclists. The Ramblers are the oldest organization devoted to wheeling in existence today, having organized in 1885, when the high wheel held sway and have followed the bicycle step by step since then. The old time club runs of the Ramblers are still fresh in the memories of the members who are now advocating the motorcycle section, that club runs may again be enjoyed. A pamphlet has been issued setting forth many things of interest to motorcyclists and if those interested will send in their names, a copy will be mailed them. A cordial invitation is extended to visit the Ramblers club rooms, Nos. 529-531 Main street, at any time.

WESTFIELD, N. J.—The motorcycle riders of Westfield have organized, and hereafter will be known as the Westfield Motor Club. The officers are as follows: H. Fay Bardwell, President; Roi C. Collins, Vice-President; Frank E. Cochran, Secretary; Guy M. Callaway, Treasurer, and Raymond D. Jackson, Master Mechanic. The club colors are red and blue. Temporary headquarters have been obtained, and meetings will be held at the Westfield Casino. As soon as the membership permits, the club will secure an affiliated membership in the F. A. M.

PROVIDENCE, R. I.—The annual meeting of the local motorcycle club was made especially interesting by the display of lantern slides of photographs taken by Frank E. Domina during a European trip. After dinner came a series of addresses, J. B. McLaughlin acting as toastmaster. The election resulted as follows: President, Frank C. Domina; Vice-President, Victor W. Page; Secretary, William M. Scott; Treasurer, B. A. Swenson (re-elected for fourth term); Captain, J. B. McLaughlin; First Lieutenant, Charles H. Westcott; Second Lieutenant, Carl Tourtellot.

AURORA, Ill.—The local motorcycle club is planning to hold a run every week, the trips varying from eighty to 200 miles. Labor Day will be spent at Pistakee Bay, the run extending over two days.

The Chicago club will also be entertained during the summer. The visitors will come by way of Elgin, where they will be met by the local club and escorted to Aurora, where dinner will be served at noon. Chicago riders will then return by way of Joliet, the Aurora cyclists accompanying them as far as that city.

CINCINNATI, O.—Fred Stenger has succeeded in interesting nearly forty motorcyclists in the organization of a club, with headquarters at 1333 Main street. Stenger held an exhibit here recently. It attracted much atention, and it proved a profitable venture for its promoter, who sold eleven machines.

ALLENTOWN, Pa.—Hagies' Motorcycle Club gave a dance in Lyric Hall Wednesday evening, February 17. An orchestra of ten men, under the direction of Martin S. Johnson, furnished music. This club is prospering, several additions to its membership having recently been made.

SAN ANTONIO, Tex.—San Antonio motorcyclists have just organized with the following list of officers: President, U. S. Oglesby; Secretary, C. L. Hiuser; Treasurer, Rex Wickwire. The motorcycle has had a remarkable growth in popularity in San Antonio, and the number of owners is increasing by leaps and bounds right along. Both for business and pleasure these wonderful little machines are daily making hosts of friends here, and before the year is out the club is expected to have nearly a hundred members. As with the automobile club, the motorcycle club will hold hill climbs, club runs and other contests among its members. Composed of live, hustling men of the city and county, the organization is believed to have a bright future. That the club will give the trade a decided boost is regarded as assured.

YONKERS, N. Y.—The Yonkers Motorcycle Club has elected the following officers: President, Thomas Lyons; Secretary and Treasurer, E. H. Clutterbuck; Captain, C. P. Rogers; Lieutenant, Charles P. Peene. The annual meeting was also made the occasion for a rabbit stew, prepared by Ed Loud, those present being Max Berger, Frank Bull, E. H. Clutterbuck, H. Clutterbuck, Gany Cochrane, Getty Emery, Dave Elridge, E. J. Loud, Tom Lyons, Charlie Mangini, Ellis, Hardy Nathan, C. G. Peene, C. P. Rodgers, Chas. Schaeffer, Walter Schulman, L. J. Seely, Ben Walsh, Watson and Bill Wolfrom.

DANVILLE, Ill.—The officers of the newly organized Danville Motorcycle Club are as follows: President, A. C. Byerly; Vice-President, H. V. Benjamin; Recording and Financial Secretary-Treasurer, Lovell Gillespie; Captain, Herbert L. Miller; Directors—A. C. Byerly, H. V. Benjamin, George Davis, Samuel Ferguson and H. L. Miller; Racing Board—H. L. Miller, Howard Smith, F. L. Hendricks, Fred Dickson and William Staudenmayer.

AT the recent annual meeting of the Metropolitan Motorcycle Club 10 West Sixtieth street, the following were elected officers for the current year: George P. Jenkins, President; DeRoy Strasburger, Vice-President; H. L. Struss, Secretary-Treasurer; J. A. McKeever, Captain; F. A. Stearn, Lieutenant. The Road Committee, appointed by the President includes W. Shulman, E. Parris and James Chicachee, who will have charge of all runs and contests. A choice program for the coming season is anticipated.

WASHINGTON, D. C.—The National Capital Motorcycle Club, which meets weekly at 626 F street, N. W., devoted two of its recent meetings to debating race meets and endurance contests. No regular club runs have as yet been considered, nor will any schedule be arranged until April. Notwithstanding, many riders are on the road whenever the weather permits, the trip to Great Fall, Md., being the favorite run for motorcyclists living in or near the national capital.

SPOKANE, Wash.—A motorcycle club has been organized here with a charter membership of thirty-five. The organization voted to make MOTORCYCLE ILLUSTRATED its official organ. J. E. Bates is President and Hugh McKellar, of 217 Post street, is Secretary.

FRESNO, Cal., local motorcyclists have just effected an organization, with the following officers: President, W. J. Mitchell; Vice-President, Dr. Couey; Secretary, Bert Caughell; Treasurer, James York; Captain, Edward Monk.

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MANN'S ACTIVITY IN THE BAY STATE

W. F. MANN, F. A. M. Commissioner for Massachusetts, who is working so hard to secure legislative relief for motorcyclists in the Bay State, reports that since his appointment the membership of the F. A. M. has been increased by fifty-five. Although the Commissioner has been doing excellent service, he himself is not satisfied with the results, nor with the number or amount of contributions received to meet expenses incurred in promoting the passage of laws designed to treat the motorcycle rider fairly in every sense of the word.

The work which the F. A. M. is undertaking in Massachusetts involves the employment of the best counsel in this line to be found in the state. A separate bill for the regulation of motorcycles has been drawn and introduced in the Legislature. Mr. Mann and his counsel will seek to have the motorcycle entirely excluded from legislation, as is the case in New York and other states. Failing in this appeal, they will work hard for the bill introduced. While every mail is bringing in applications for membership, greater interest must be shown if all expenses are to be met.

It is to be trusted that every rider in Massachusetts will come forward and join the organization that is working solely for his benefit, and thus enable it to bring about many results along other lines that have not yet been attempted because the fraternity is not big enough. There is much yet to be accomplished that can be done only by united endeavor.

FRISCO'S NEW MOTORCYCLE ORDINANCE

A NEW ordinance regulating travel and traffic has just become effective in the city and county of San Francisco. The ordinance makes it unlawful "for any person operating a self-propelled vehicle upon the streets to permit the motors of same to operate in such a manner as to visibly emit an unduly great amount of steam, smoke, products of combustion from exhaust pipes or other pipes or openings," or to "permit the pipes, mufflers or other devices to emit the sounds of exhaust in a loud and annoying manner." Persons under the age of eighteen years must secure a permit in writing from the Board of Police Commissioners, "provided, however, that no permission shall be granted to any person under sixteen years of age."

Section 29 provides that "it shall be unlawful for any person to operate any vehicle at a rate of speed greater than is reasonable and proper or so as to imperil the life or limb of any person, or the safety of any property, or in any event upon any heavily traveled street at a greater rate of travel than one mile in six minutes, or elsewhere at a greater rate than one mile in four minutes."

Section 31 is to the effect that "it shall be unlawful for any person to operate upon the streets, during the period from one-half hour after sunset to one-half hour before sunrise, any bicycle, tricycle or motorcycle, or similar vehicles, unless said vehicle is provided with at least one lighted lamp showing a white light visible within a reasonable distance in the direction toward which such vehicle is proceeding."

Section 33 provides that "any person who shall violate the provisions of this ordinance shall be deemed guilty of misdemeanor, and upon conviction thereof shall be punished by a fine not less than a minimum of five dollars and not exceeding one hundred dollars for a first violation, and for each succeeding violation an additional sum of five dollars shall be imposed, but in no event shall the maximum amount of the fine exceed the sum of one hundred dollars or imprisonment in the county jail for a period not exceeding fifty days, or by both such fine and imprisonment."

A $5 Tax in Kansas?

TO make automobile and motorcycle owners pay for the improvement and maintenance of good roads is the purpose of a bill introduced in the Kansas Senate by Senator G. L. Chapman of Barton. Every owner of a motorcycle or an automobile would be required to take out a state license, at a cost of $5 per annum. The money would be collected by the Secretary of State. The autoists and motorcyclists in return would simply receive an aluminum tag which they would display on the rear axle of their self-propelled vehicles.

The author of the bill also proposes to regulate the speed on the public highways. Twenty miles an hour would be the maximum speed on the straight country roads, and half that speed at corners or curves. At least two lighted lamps would be required between sunset and sunrise. As each car was registered, a complete description of the machine, with the name and place of residence, would also be taken.

AFTER hanging fire for nearly five years the case of Edward Buffum against Robert C. Winters was settled out of court on January 25. Buffum, who was run into by Winter's car on July 5, 1904, in West Sixtieth street, New York City, sued for $5,000 through his attorney, Dwight Patterson. The case was settled for $950.

THE Iowa Legislature has just passed a bill providing that the motorcycle registration fee, heretofore $5, be reduced to $2.

Wooden Road Signs the Best

POWELL EVANS, of Philadelphia, chairman of the American Automobile Association's Touring Information Board, is completing arrangements for the manufacture of about 10,000 wooden road signs, which are to be erected during the coming touring season throughout the district where roads have not been properly posted.

The Touring Information Board has decided, after considerable deliberation, to use wood signs instead of such as have been erected in the past few years. It is found that the small boy has discovered he can get a great deal of amusement by throwing sticks at enamel signs which chip off wherever struck. The new form of wooden sign, which is under consideration by the board, appears to be absolutely indestructible. It will be bound with metal and tested by a process which makes it not only fireproof, but water and weatherproof.

BOTH the National Capital Motorcycle Club and the Washington Cycle Club have joined the race circuit of the F. A. M., and will hold championship meets during the summer. In addition, Washington motorcyclists will, as soon as the weather moderates, begin a series of dual meets with the clubs of Baltimore and Philadelphia.

THERE will be no Paris automobile show at the end of this year. This decision was arrived at by a substantial majority at a meeting of manufacturers.

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F. P. PRIAL

LEROY COOK - - - - - - - *Editor*
L. H. CORNISH - - - - - *Advertising*

Near the Season's Opening

NEW YORK, Chicago, Boston—three headliners, with a number of lesser exhibitions in the intervals, are doing wonders for the motorcycle. These shows are serving beautifully the purpose of establishing the trade upon a sound foundation for business in 1909. The Hub show opens Saturday night, and promoters say its motorcycle features will be a revelation. All of motorcycling New England is enthusiastic, and from Maine to Connecticut there is being manifest every degree of confidence that the Boston exhibit will cause the trade and the sport to be placed upon an entirely new basis Down East.

The Boston show will not be the last of the year in this part of the country, for the Buffalo affair will follow closely upon it. The Bison City exhibition concluded, however, the show season will be over with, insofar as this part of the country is concerned. By that time, roads will be in good condition for riding, and the 1909 models will be put to their first practical test.

Much, but no more than their capacity for good work, has been claimed for the new machines. The public, still somewhat in doubt, is eagerly awaiting the first month's results of these tryouts on the road. Manufacturers are quite as anxious and their anxiety is, of course, shared by the riders. But that of the latter two classes is supported by a feeling of the utmost assurance that the 1909 motorcycle will effect complete conversions of thousands of doubting Thomases.

In Theory and Practice

SENATORS Bailey, of Texas, and "Pitch fork" Tillman, of South Carolina, are confirmed "anti-speed-maniacs," and they recently expressed, on the Senate floor, their confirmed hostility to the class owning self-propelling vehicles. They made no references to motorcyclists, though it may be assumed that they intended to include the latter. They pictured a dismal prospect for the farmer. While Bailey and Tillman harangued, thousands of farmers were going about their business in automobiles, and thousands of others were receiving their mail from rural free delivery motorcycle carriers. So there you are.

Reason vs. Prejudice

A BILL providing for the abolition of the speed limit and for the substitution therefor of a "reasonable and proper" clause, is now before the British Parliament, and the prospects of its passage are thought to be excellent. For a long time, the English, with characteristic obstinacy, have held to the opinion that arbitrary speed limitations were absolutely necessary, and the practical conversion of this hard headed race to the contrary view is indicative of what will occur in the United States.

Only one state—Connecticut—has thus far incorporated this provision in its motoring laws. Everywhere throughout the states it is admitted by non-motorists that the success of the operation of the law has exceeded their expectations. The results have been so remarkable largely because the "reasonable and proper" clause appeals to the self-respect, judgment and general intelligence of the auto driver and the motorcyclist. It has put them on their mettle to prove to the public that they can be entrusted with discretionary power. They have made excellent use of the opportunity thus afforded them to prove that the "speed fiends" constitute a very small fraction of their number.

The people of Connecticut are no different from those of any other state. A regulation which has met with so much success in this New England commonwealth should be just as popular elsewhere throughout the country. Nor is there any doubt that such will be the case, and that laws containing arbitrary speed limitations will finally be relegated beyond the bourne of old memories of the days when prejudice instead of reason and fairness ruled the precarious fate of the motorist.

Something to Be Avoided

A WOMEN'S automobile race has been held in New Orleans. Decent, self-respecting automobilists decry the proposition, and hope this will be the end of it. No similar effort has as yet been made in motorcycling. The competition rules of the F. A. M. expressly prohibit this sort of thing, and every sound-minded motorcyclist is in sympathy with that prohibition. It would be too much, however, to feel entirely confident that the effort will never be made. The opportunity to create an unseemly sensation is more than likely to prove too great a temptation to some unprincipled promoter. If so, an accident will follow as a matter of course, public indignation will be properly aroused, and the excellent effects of much missionary work nullified. Of course, motorcyclists will do all in their power to prevent such an unfortunate consummation.

Lights on All Vehicles

"UNIVERSAL lights" is the present-day cry in which the rider of the motorcycle cheerfully joins the automobilist. There is a disposition among legislators to pay heed. There is no denying that the representatives of the self-motoring fraternity are well supplied with arguments. For, just as *Automobile Topics* says: "The slow-moving dray or farm wagon with a sleepy driver, is much more of a menace to other highway users than any number of automobiles. The latter can be heard as well as seen, and its driver has too much responsibility to go to sleep on duty." The auto-owner and motorcyclist can well afford to have plenty of light thrown on the subject. They are giving the public a square deal in the matter of illumination, and are justified in expecting similar treatment themselves. If not too impetuous, success in these premises will be achieved in the near future.

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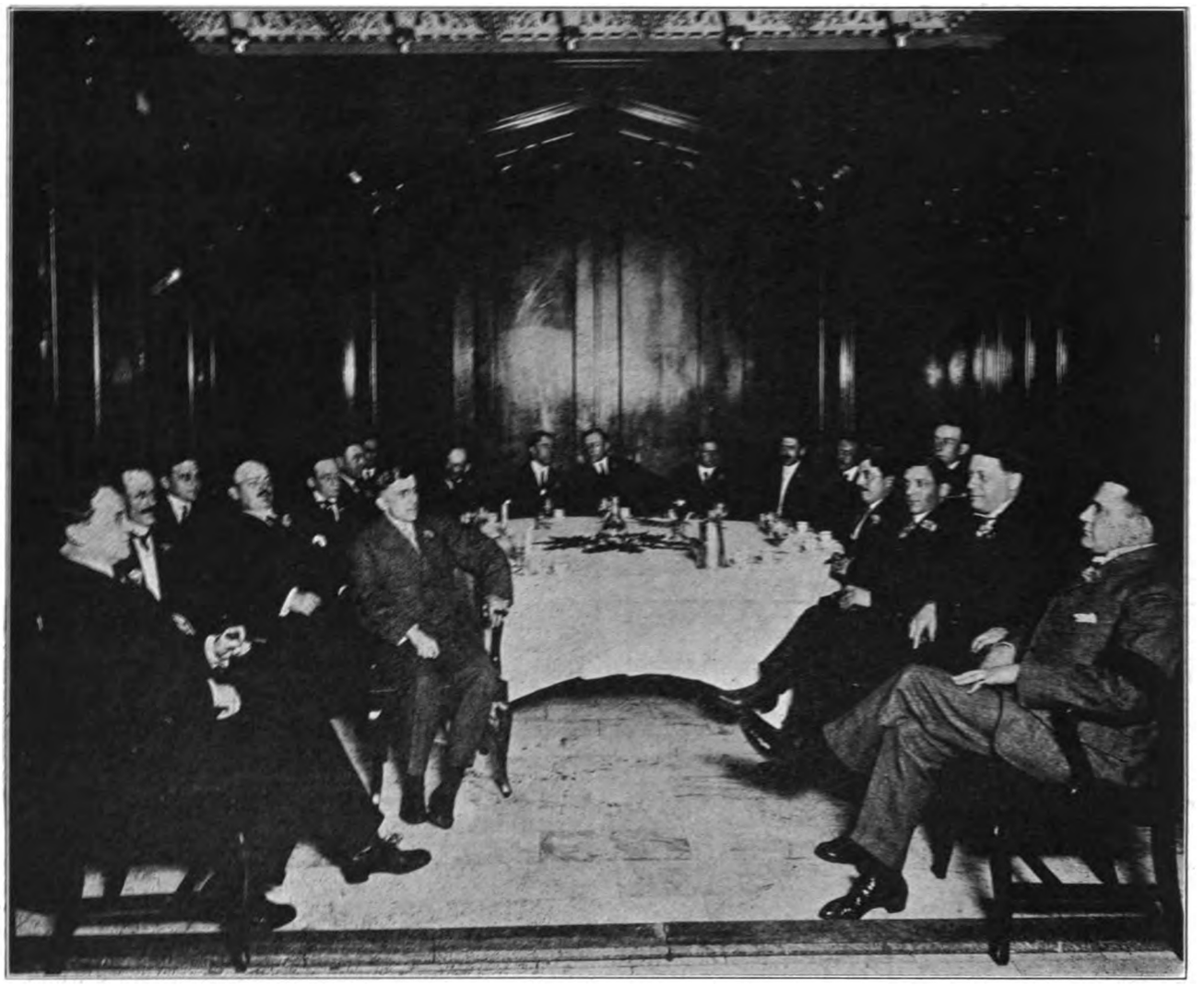
A GATHERING OF EXCELSIORS



TAKING advantage of the presence in Chicago to attend the Automobile Show of the traveling representatives of the Excelsior Supply Company, Mr. F. C. Robie entertained the executive and sales forces of the company at a dinner at the Chicago Athetic Association. The local representatives present were:

H. N. Kirk, sales manager of the Auto-Cycle Department; C. C. Boynton, manager of the Automobile Supply Department; F. B. Hart, manager Advertising; H. W. Cooper, in charge of the Retail Selling Branch, and F. W. Suter, C. H. McCormick, J. W. Grossmith, E. W. Doliver and H. H. Dewey, all of the City Sales force.

The traveling representatives present were: F. A. Skinner, of the Pacific Coast; Gideon Haynes, of the Rocky Mountain District; V. B. Mearns, of the Corn Belt; J. B. Morrow, of the Corn Juice Districts, and Fred Wiel, Harry Svenagaard, F. Y. Horn, Jake Meyers, G. T. Briggs and M. A. Miniter.

The dinner followed an enthusiastic meeting, at which prices and policies for the coming year were discussed, and Mr. Mearns, who previous to this meeting had been known as C. E., was by unanimous vote authorized to change his initials to V. B., in consideration of certain distinguished services.

This is the second meeting of this nature that has been held, the first occurring during the Chicago Auto Show of a year ago, and it will probably become an annual reunion of the live wires of the Excelsior Company.

Harley-Davidsons Regaled at Chicago Banquet

THE Harley-Davidson people, on certain occasions, mix business with a certain amount of pleasure, but not too much; otherwise the result would not be good. When they opened the new addition to their plant they gave a dance and dinner and had all their friends there. On the last day of the Chicago Show they gave a banquet at Chicago's most famous restaurant. Twelve of their friends were there, the honors being done by Arthur and Walter Davidson. The names of those present were C. H. Lang, of Chicago; J. E. Ferguson, of Milwaukee; W. S. Harley, of Milwaukee; T. G. McCullough, J. W. McCullough, R. C. Underhill, J. C. Hosman, J. E. Hehne, Jack Sturtevant, Harvey Barnard and Arthur Barnard, all of Chicago. Short speeches were made, and long drinks were had out of the famous Economy Cup won by Walter Davidson on Long Island last year. This is the fourth Harley-Davidson Annual Banquet. It is always held on the last night of the Chicago Automobile Show.

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QUESTIONS AND ANSWERS

Number of Questions Answered

Will you kindly answer the following inquiries in MOTORCYCLE ILLUSTRATED, and oblige?

First—I have considerable trouble in starting my Curtiss motorcycle in cold weather; that is, even if it is down to the freezing point. I read recently that if a motorcycle had to be pedaled more than six yards to start it that there was something radically wrong. Now I could never start mine in that distance; but why should it start much harder when it is a little cold? I have to let the stand down and warm it up before I can start it on the road. Second—I am unable to stop the leakage of oil at the spark plug. Of course that means a loss of compression also. I have sent to the manufacturers, purchased new gaskets, and screwed the plug tight enough to cut a crease in the copper gasket; but still it will leak oil. An asbestos supplementary washer stops the leak for a while, but it soon gets oil soaked and the trouble shows again. Can you suggest a remedy? Third—My wife desires very much to accompany me on my motor trips. As I have but a 3½-h. motor I am afraid it would not handle a sidecar in this hilly country; but I read in MOTORCYCLE ILLUSTRATED of ladies riding tandems. Are these tandems especially constructed for ladies or are they the regular style, requiring a divided skirt or special suit for ladies? I weigh 150 and my wife about 100 pounds, so my machine would carry us both if I could get a suitable tandem attachment. I will appreciate it very much if you can find time to answer any or all of the above inquiries.

Very respectfully yours, CHARLES D. CURTIS.

Cincinnati, Iowa.

Your particular make of machine has high compression, and is therefore naturally harder to start than some others. Cold weather hardens the lubricating oil on the cylinder walls, and this, of course, makes for difficult starting. The cure is to inject a squirt of kerosene (or gasoline) into the cylinder through the compression cock. The fact that oil works out around the spark plug does not necessarily mean compression is lost there. If oil is used too copiously it will show around the plug on many engines, especially where the plug is in the top of the cylinder head. Put in a new asbestos washer, and don't overoil. Have you the proper plug fitted? On your machine this should have a "pipe thread" that tapers slightly. Read what the Doctor says in this issue. Three and a half is not enough power to carry a sidecar in hilly country. All tandem attachments are similar in construction, and a divided skirt is advisable when ladies ride.

For Hill Work

MAY I ask through the columns of the MOTORCYCLE ILLUSTRATED some questions? Is a 2¼-h. motor capable of carrying a sidecar; roads are stoned, but some hills? What is the address of the Philadelphia Motorcycle Club and of the officers of the F. A. M.?

Yours respectfully,

LELAND WRIGHT.

Bordentown, N. J.

No, 2¼-h. is not enough power for sidecar work, even in New Jersey. Philadelphia Motorcycle Club, address the secretary at 1821 North 13th street.

President E. L. Ovington, F. A. M., 2232 Broadway, New York City, or Secretary H. J. Wehman, 1150 Bedford ave., Brooklyn, N. Y.

Two-Cycle Engines

CAN you tell me where I can get a two-cycle motorcycle engine of about 3½x3½, single cylinder, that gives good satisfaction? Also a two-cylinder motor?

Jesup, Ia. N. V. SHANE.

Write the Motorcycle Supply Company, Hammondsport, N. Y., for catalogues. Also the Duck Cycle Works, Oakland, Cal.

The difference between the good road and the middling one in the cost of tires is fully 100 per cent.

CORRESPONDENCE

A Connecticut Trip

TO begin with, I want to tell you how much my friends and I think of MOTORCYCLE ILLUSTRATED. Now that the good old friend comes early and often, I should like to see more about the trips the different brothers take. Surely there are many good stories that we would all like to hear about, if the boys would only take the time to write them up. I am sending you a picture of Mr. George Rockwood and myself, as we were returning from a long ride one Sunday last summer. A gentleman, standing beside the road snapped us as we passed by. There are several friends in town beside myself, who ride M. M. Motorcycles. We usually start out Sunday morning bright and early, and ride nearly all day, going to the beaches or into the country. We find some nice shady place near a brook, and sit and talk of the first motorcycle days, the days when we would always come home on a railroad train, and our machines arrive about a week after, upside down. "But the good old days, we love them still."

For our vacation, we took a nine days' trip on our motorcycles through Connecticut. We went from here to Worcester, and from there to Webster, and on down through the state. We stopped at a little place called Chestnut Hill. We went out on the Fair Grounds, where our M. M.'s attracted more attention than anything else.

Next we saw a fellow with a hand-organ and a monkey,

with a sign on his hat, which read: "Help me, I am blind." I said to him, "How do we know that you are blind? Prove to me that you are blind, and I will give you a quarter." He replied, "Let me see the quarter first."

I saw a number of fellows throwing balls at babies. You received a cigar for every baby you hit. I threw for fifteen minutes, and didn't hit a baby. I began to get homesick right away. I suppose I missed the children.

The next day I was arrested for over-speeding, and the Judge fined me ten plunks. "Judge," said I, "I wasn't overspeeding, I was trying to get away from a swarm of bees." He said, "Well, this is where you get stung." We finally reached Danielson. I had an old friend living there by the name of Work. As we were standing on the street corner, a policeman came along, and asked us what we were doing. I told him we were looking for Work. He answered, "If you are looking for work, I'll help you both to get a job sweeping the streets if you are out for the dust." I called him a lobster, and he pinched us both.

Another place through which we passed was Jewitt City, noted for its pretty girls. The name of one of them was Auto. I think she was from Mobile.

After enjoying the most pleasant vacation either ever had, we wound up by watching a ball game between two local teams, and we laughed, and laughed, and we laugh to this day over the experiences of our nine days' trip through Connecticut, on a motorcycle. Next.

Very truly yours,

Readville, Mass. C. E. CROUT.

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WITH THE DEALERS

CINCINNATI, O.—Jacob Sachs, announces that he has just opened a new motorcycle store under the name of The Milton Motorcycle Company, on Race street. While in Chicago at the show he closed for the agencies of the Harley-Davidson and New Era, in addition to his old lines of the Thor and the Royal Pioneer.

Mr. Sachs expects to do a big business this year, in view of the ever-increasing interests in motorcycles in Cincinnati, and is preparing to put in a full line of accessories and supplies. Mr. Sachs has just organized a very lively organization under the name of The Twin City Club.

NEWARK, N. J.—The Standard Leather Washer Manufacturing Company, manufacturers of "Gray's Touring Necessities," has been appointed distributor for the well known "Sponge Rubber" Bicycle and Motorcycle Grips, by the patentees, the Mattson Rubber Company. The Standard Leather Washer Manufacturing Company is marketing these goods in both plain and leather covered styles and also offering the trade a complete line of motorcycle and bicycle grips made under its own patents.

MILWAUKEE, Wis.—Comparatively speaking, Milwaukee is to-day one of the most active and promising motorcycling centres in the United States. If that were not true, a city of its size could not boast of no less than nine agents, all of whom report doing a thriving business. These agents are as follows: F. A. Bremer, 799 7th street, Merkel and Light; John H. Kuenzli, 532 12th street, Excelsior; John H. Wagner, 684 Van Buren street; Jonas Cycle Company, 728 National avenue, Harley-Davidson; Phillip Gross Hardware Company, 126 Grand avenue; Bottrell Cycle Company, 756 Forest Home avenue; Jos. J. Lantry, 598 East Water street, Thor; Jos. Schostak, 481 Third street; Puritan Manufacturing Company, 88 Mason street, Crouch.

LOS ANGELES, Cal.—McKay Brothers Rubber Company have been appointed Coast agents by the Walton Motor Company, Inc., of Lynbrook, N. Y. Early in February McKay Bros. will have in stock a full line of the Midget Bicars. The Walton Company, who entered the field only a few months ago, have a fine factory at Lynbrook, and are now ready to appoint agents throughout the entire United States.

PORT HURON, Mich.—The "Michigan Auto-Cycle Company" has opened salesrooms in the Bricker Block, and is handling the Harley-Davidson, Indian and Curtiss motorcycles through eastern Michigan. A full line of accessories will be carried. The sales are in charge of H. M. Ferguson, formerly with the auto trade.

AUGUSTA, Ga.—Push, hustle, hard work and honest dealings are the prime requisites for success. W. H. Holmes has embodied into his business these articles of success, and a thriving business is his to-day. Mr. Holmes has just secured the sole agency for Augusta and territory for the famous Indian motorcycle. The Indian motorcycle is a wonderful and successful machine, and in Mr. Holmes' hands as agent there will be many Indians around the city in the near future. Holmes also sells the Fulton, Pierce, Rambler, and Yale bicycles; does repair work and keeps in stock all parts of bicycles and of Indian motorcycles.

OAKLAND, Cal.—Twelfth street is rapidly becoming more and more a center for automobiles, motorcycles and accessories, and recently two newcomers were seen upon the row. Williams, agent for the Excelsior motorcycle, has left his old location and is now opening a large store on Twelfth near Alice. Across from him is an establishment presenting a new generator for automobile lights, the Cetolight, which is the invention of X. Hernie of Fruitvale.

PHILADELPHIA.—W. G. Rhodes, R-S agent, was one of the four motorcycle agents who exhibited at the recent show here. Rhodes declares that his 1909 orders are far in excess of those for the same period last year. Alexander Klein, the local Harley-Davidson man, has opened a large store at 433 North Broad street. C. D. Feiler, the local Merkel agent, reports an unusually satisfactory business during the past two weeks.

CHATTANOOGA, Tenn.—The Chattanooga Bicycle Company, with a capital stock of $2,500, seeks to operate a bicycle, motorcycle and general supply business. The incorporators are H. O. Nelson, Walter Cline, W. Y. Tousley, T. R. Lynch and U. G. Caulk.

CHICAGO, Ill.—The Chicago Cycle Dealers' Association has elected as its President, W. A. Strom. William McDougald was chosen Vice-President, H. B. Hansen, Secretary-Treasurer, and Messrs Nelson, Smith, Schwartz, Harlow, Hendricks and Stewart, Directors.

WORCESTER, Mass.—Messrs Coombs and Fish have opened a store at 36 Austin St. (near Post-office), and are carrying a complete line of bicycles, and the F. N. Big Four, F. N. Lightweight and Merkel-Light motorcycles and supplies.

F. H. Leman, of 126 Willoughby avenue, West Toronto, Canada, who is agent for the Curtiss, reports that there are about one hundred motorcyclists in that city. He says, however, that the demand is principally for English goods.

THE Emblem Manufacturing Company, manufacturers of the Emblem motorcycle, has just issued its 1909 catalogue, a most attractive little publication. It contains illustrations of the 1909 Emblem 3½-h. single cylinder, and the 1909 4-h., also a single cylinder. The features of the Emblem, as already stated in MOTORCYCLE ILLUSTRATED, are its triangular frame re-inforcement, and the use of crank case and connecting rod ball-bearings. Both these features are effectively illustrated. Altogether, the catalogue is an interesting little piece of motorcycling literature, which may be had by application to the Emblem Manufacturing Company, at Angola, N. Y.

THE Frank B. Widmayer Co. closed during show week with the Harley-Davidson Motor Company, of Milwaukee, and will handle that machine in addition to the Indian this year. All of Greater New York and Long Island territory was secured, and sub-agencies will be established throughout the whole district. On the Indian this year, the Widmayer Company also secured additional territory. Instead of terminating at 125th street, as heretofore, their district now runs all the way up to the Harlem River.

"THE Official Automobile Blue Book," containing much valuable information for the motorcyclist, is now being printed. The 1909 edition will consist of four volumes, as follows: New England, reaching into New York state; New York, reaching the middle West; New Jersey, Pennsylvania and the South; Chicago and the middle West. There are in the four parts of the publication over 2,500 pages of text, and 700 outline maps, and more than 100,000 miles of road are recorded. The "Blue Book" is published by the Class Journal Company, 231 West Thirty-ninth street, New York, and 1,200 Michigan avenue, Chicago.

ROBERT BRAZENOR, who has been in charge of the repair department of the F. A. Baker & Company's Brooklyn store, has started in business at 849 Bedford avenue, Brooklyn, under the firm name of Brazenor & Ruderman. They will handle the Thor motorcycles, a line of bicycles, and carry parts and accessories. Of course, they do repair work too.

WILLIAM JENNINGS BRYAN, JR., has placed his order with the Lincoln Automobile Co., of Lincoln, Nebraska, for a Thor twin cylinder, magneto ignition, motorcycle.

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IT was noticed that a large number of Troxel "Eagle" saddles were fitted to many of the leading motorcycles at the New York and Chicago shows. All the Excelsior models were fitted with "Eagles," and these were also fitted on some of the Thor, Harley-Davidson, and Reading Standard machines. The design of this saddle is on well tried lines, on a cushion spring principle, which has been thoroughly tested on every road condition. The saddle top is made on the very finest imported leather, and is securely rivetted to the frame. The trusses are made of selected steel stampings. The cushion springs and plungers, and indeed all the material used in the construction of this seat show careful selection and thorough testing. The universal clamp is made of steel stampings, the ratchets being deeply cut, and the construction is such that it is impossible for the saddle to turn or twist on its post when once adjusted. The springs are of black enamel, but are also supplied in polished nickel plate with a very fine finish. This saddle is so constructed as to afford the rider the very lowest possible riding position on his machine, and the cushion springs and the general design should make a most comfortable seat for riding. The length of this saddle is thirteen and one-quarter inches, and its width is twelve inches. The Troxel "Eagle" saddle bids well to become very popular, as it is thoroughly up-to-date in every particular. The Troxel Company also manufactures a very fine tool bag, called the Troxel "Regular." This is made of the finest leather, in two sizes, No. One being nine and one-half inches long by four inches wide, and No. Two being nine and one-half inches long by three and one-half inches wide. It was noted that the straps for attachment were of suitable strength. A "Special" motor bag is also made which corresponds to the "Regular" with the exception that it has one flat side to fit against the front forks. A tool roll, in best leather, is also being made by this company.

THE F. B. Widmayer Company, 2312 Broadway, has sent out a few advance copies of its 1909 catalogue of motorcycle specialties and general supplies. This publication, which will be issued March first, is both handsome and comprehensive, and a copy should be in the hands of every motorcyclist. It illustrates many new specialties and, in a word, is of great practical value. The Widmayer Company has perfected arrangements for handling the Indian over a greatly enlarged territory, which extends to the Harlem river, with a sub-agency in West 125th street. The company is also distributing agent in Greater New York and all of Long Island, for the Harley-Davidson belt machines. Recently, in one day, Mr. Widmayer sold two new and four second-hand machines, a rather satisfactory day's work, was it not?

AN addition to the Chicago trade has been made. H. P. Hansen has secured the agency for all of the State of Illinois for the Merkel-Light line and has just opened an up-to-date store in Chicago. Hansen has been identified with the bicycle and automobile trade for the last eighteen years.

THE copartnership of Vincent S. Forest and James J. Malone—Forest & Malone—dealers in motorcycles, bicycles, etc., at No. 10 Monroe avenue, Rochester, N. Y., has been dissolved, Mr. Forest going out of the partnership and Mr. Malone continuing the business at No. 10 Monroe avenue.

THE G & J Tire Company, of Indianapolis, has broken ground for the erection of an addition to its factory which will increase the floor space by 50,000 square feet.

THE Connecticut coil, unlike the usual coil, is designated to be operated on three volts or two ordinary dry cells. The majority of coils, however, cannot be operated on less than three cells. The principal aim of the manufacturers, the Conn. Telephone and Electric Company, of Meriden, Conn., in designing this coil was to devise a product which would be small in size and could be operated on two ordinary dry cells, inasmuch as this construction would materially reduce battery maintenance, be much neater in appearance, and require much less space, which at best is limited on a motorcycle.

In actual test these coils have given more mileage from two ordinary dry cells than could be secured by other coils operating on three. Furthermore, the coil produced more power on the high speeds and it was quite noticeable that the motors would start more readily in cold weather, due of course, to the exceedingly hot spark produced by this coil.

The internal construction is radically different from the average cycle coil, and the producers are confident that in this coil they have solved the motorcycle coil problem so far as battery ignition is concerned. This coil is made up for both one and two cylinder engines as indicated in the price-list, as follows:—Type 1-C, for 1 cylinder motors, price each, $9.00; Type 2-C, for 2 cylinder motors, price each, $9.00.

NEW "Duke V Belt."—The only change made by Dukelow Brothers in their "Duke V Belt" this year, is that a tongue overlapping the rivet takes the place of a tube, thus making a one piece link, with the links deeper and of a little lighter steel, than those used last year. The belt consists of a chain of V shaped steel links, imbedded in rawhide and leather. Each link is made of the best selected steel, case hardened, 1 inch long and connected by a rivet of the hardest steel obtainable. The rawhide covering the two side walls and the bottom of our chain gives the belt the same side surface as an ordinary leather belt. A small portion is cut out of the rawhide at the bottom or joining corners of each link as shown in illustration, which positively prevents any buckling when the belt comes in contact with the pulleys; the belt entirely closing and giving its entire surface to the driving pulleys. The V shaped leather lug used on bottom of each link, (fastened by a rivet which passes through the lug, rawhide, and then riveted on to the steel link), relieves any strain the links may have through the rawhide when in contact with the pulleys and will prevent the links from ever wearing through the rawhide by the pulley action.

The links are so curved as to conform closely to the smallest pulley used on any motorcycle. When the two side faces of the belt grip the V part of pulley, the links being curved, give a driving force of its entire surface to the pulley, the same as a solid leather belt, but, with an elasticity of action which makes use of all the power supplied by the motor without loss or waste.

"THE Girl From Goodrich" is not the title of a modern novel, but refers to a remarkable picture sent out by the B. F. Goodrich Company, of Akron, Ohio, to all of their friends—and by friends they mean people they have on their order books, in their ledger. She is called Adele, and the Goodrich people say of her: "A rare, wistful, restful companion—just the sort for a man to take into his confidence. Heart's ease is her flower; sweet complacency her dowry; Goodrich Goods her prayer."

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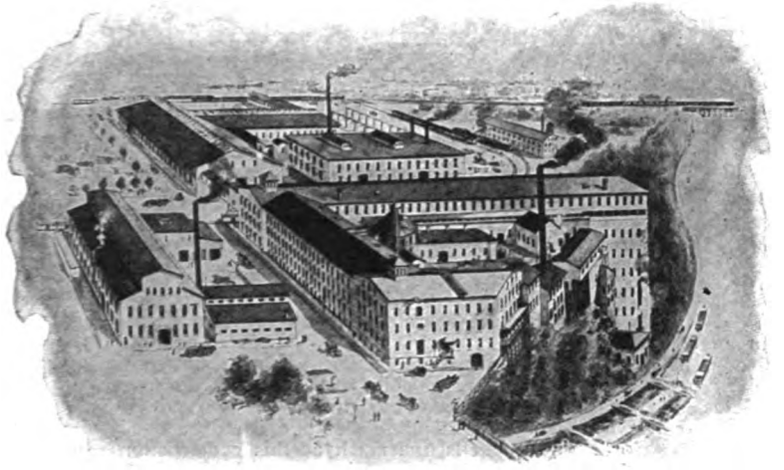
LOCKPORT COMPANY'S TRACTION TREAD TIRE



Factory of Lockport Rubber Company.

Lockport Traction Tread Tire.

THE Lockport Rubber Works, of Lockport, N. Y., has placed on the market its twin cylinder traction tread motorcycle tire, built of specially heavy imported fabric, with a tread which exclusively affords both anti-skid and traction features, eliminating entirely the need of using a chain. The tire was designed by President Charles F. U. Kelly, who is satisfied that he has produced one of the most efficient motorcycle tires in the market.

In working out the design of this tire, Mr. Kelly kept in mind the requirements of a twin cylinder, realizing, of course, that a tire suitable for the strenuous services of a twin, would do even better work when fitted to a single-cylinder machine.

Before placing the tire on the market the Lockport Company tried one out in active service for nearly a year, during which almost 4,000 miles were traveled, at the end of which the tire was in practically as good condition as when applied to the machine.

As will be plain from the above illustration the Lockport concern has an immense plant. Motorcycle tires are only one of its many manufactured rubber products. However, confident that the motorcycle has a wonderful future, the company has planned to produce a large quantity of these tires, of the popularity of which President Kelly is certain.

JOHN McDOWELL, well known to bicycle and motorcycle interests for a generation past, has become the traveling representative for the Indian in the New England district. Mr. McDowell came into the business with the Union Cycle Manufacturing Co., with which concern he was connected for ten years. Subsequently he was with the Stearns agency in Boston, and for a number of years represented the Yale bicycle and motorcycles in New England.

THE Sims Manufacturing Company, of London, has appointed A. R. Miller, 42 Broadway, New York, the American representative for the Sims ball-bearing magneto.

C. W. GRISWOLD, who has been connected for sometime with the Corbin Screw Corporation as a salesman, announces his retirement from that concern. He is about to enter the employ of the Sidney B. Roby Co., Inc., of Rochester, N. Y., where he will be engaged in their automobile and motorcycle accessories sales department.

ROY CREIGHTON, proprietor of the Upland Garage, Upland, Cal., has taken the agency for the Thor line in his territory and will handle it exclusively. Mr. Creighton is a thorough mechanic and is a motorcycle rider. At Bakersfield, Cal., C. A. Maino has taken over the Thor agency.

Brevities of Interest to Manufacturers and Agents

W. F. Stearns is now factory manager of the Lockport Rubber Works, in which he also has a financial interest. Having had much experience in tire-making, he will have charge of the production of the new Lockport twin cylinder traction tread tire for motorcycles.

The Riley Klotz Manufacturing Company, 17-19 Mulberry street, Newark, N. J., has just issued a catalogue devoted to horns, screens, flexible tubing, bulbs and reeds.

Harley-Davidson Motorcycles are being handled by the Pueblo Motor Company, which has just begun business at 104 East Fourth street, Pueblo, Colo.

It is rumored that the Sayre Stamping Company of Sayre, Pa., is making cylinder castings for motorcycles.

Auto Genous Welding & Equipment Company, of Springfield, Mass., is making a machine for welding, which is appealing to motorcycle manufacturers.

Morrow Manufacturing Company, of Elmira, N. Y., is making a new coaster brake for motorcycles.

Wray Pump and Register Company, of Rochester, N. Y., will have a motorcycle pump on the market this spring.

Alloy Foundry Company, Perry Street, Buffalo, N. Y., is making cylinder castings for motorcycles.

Kiefler Motor Works, 184 Broadway, Buffalo, N. Y., are now manufacturing motorcycles.

Walker Foundry Company, of Erie, Pa., are making castings for motorcycles.

K. W. Ignition Company, of Cleveland, Ohio, are making plugs and magnetos of motorcycle size.

L. J. Mueller & Company, of Cleveland, Ohio, are preparing to establish a big motorcycle and accessories department in their Woodland avenue store.

The Fieldbach Motor Works, of Milwaukee, Wis., are getting out motorcycles.

Kokomo Electric Company, of Kokomo, Ind., is making carbureters, coils and spark plugs for motorcycle use.

Batavia Rubber Company, Batavia, N. Y., intends to market a tire for motorcycle use.

Union Battery Company, of Belleville, N. J., is making a battery especially designed for motorcycle use.

THE Waterbury (Conn.) Gas Company has declared the recent experiment with a motorcycle for one of their inspectors a complete success, the man being able to cover twice as much ground as before in the performance of his duties.

McLaughlin & Ashley Motorcycle Co., 206 West 76th street, New York City, capital, $10,000, has just been incorporated, with J. F. McLaughlin, president, and Geo. A. Ashley, secretary and treasurer.

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NEW YORK AND CHICAGO SHOW ACCESSORIES

THE PFANSTIEHL ELECTRICAL LABORATORY, of North Chicago, Ill., had an especially attractive exhibit of their full line of spark coils. In addition to the regular dash and marine types, vibrator and non-vibrator, this company displayed its motorcycle models. These latter are now well known to a number of prominent motorcycle manufacturers, several thousand having been sold to this trade during the past two years.

One of the main characteristics of all Pfanstiehl coils is a unique system of winding and insulating. A pan cake method is employed with a patented insulating feature, which renders the coils proof against breakdown, regardless of conditions. The windings are built up on patented machines, thus reducing the factory cost and insuring uniformity. For this reason the makers have placed a five-year guarantee on all windings and a five-year guarantee on the motorcycle coil throughout.

The motorcycle coil for 1909 is equipped to produce a hot spark on a minimum of current consumption. Special attention is given to the sealing waxes, terminal connections and finish on fibre casing. The coil is warranted to be indestructible under all conditions.

FISK RUBBER COMPANY, CHICOPEE FALLS, MASS.—For some little time this concern has threatened to come into the motorcycle field with a Fisk tire, and at last it is here, and apparently good it is, too. For many years the Fisk Company has built bicycle and automobile tires, and its single aim has been to produce tires of unequaled quality. In their new motorcycle tire their automobile type of construction is followed out. It is made with a single clinch rim and with a moulded flat tread, and extra thickness of rubber on the wearing surface of the tire. The tire is moulded to shape in the same style of moulds used by the Fisk Company in automobile tire construction. On the tread are several fine corrugations. Inner tubes of the finest grade of Para rubber are also made in motorcycle sizes. One of the tests of these tubes that the Fisk demonstrator gave visitors to the booth was to grab hold of one of them about twelve inches from either side of the valve, and then pull it as far as his arms could reach. This was certainly convincing demonstration of the quality of the rubber put into them.

JONES SPEEDOMETER COMPANY, NEW YORK CITY.—This concern showed three models of the Jones speedometer, especially designed for motorcycle use. These instruments are well known to a great number of riders, and for the coming year there are no changes from the established principles of construction that have been worked out by the Jones Company during the several past years in which they have been building automobile speedometers. Their model No. 24, with a three inch dial and fifty-mile scale, is listed at $20. The same instrument, with a sixty mile scale, sells for the same price, and their model No. 26, with a sixty mile scale and a total mileage indicator, is listed at $25. These instruments are all very durably constructed to withstand vibration and jar and the indicating hand is steady at all speeds. They are attached to the handlebar and driven by a flexible shaft and gears of the same type of construction as are used by the Jones people in connecting up their automobile speedometers.

WHEELER & SCHEBLER, INDIANAPOLIS, IND.—On a table with about thirty other carbureters was the W. & S. Model T, designed for motorcycle use. This is similar in design and arrangement, and follows along the same lines, as the automobile carbureters made by this Indianapolis concern. It has a spherical shaped bowl which embodies the reservoir float chamber. The air for low speed is received from a tube passing through the center of the float chamber. This tube grows smaller at the discharge point of the spraying nozzle, leaving only a small aperture, thus allowing the engine to be throttled down to a very low speed, at the same time receiving the requisite amount of air for a correct mixture. The needle valve has two adjustments, one for high and one for low speed.

The constant air intake, which supplies the air for low speed, is fitted with a pipe elbow which should be connected to a pipe bringing hot air from the exhaust and which can be swung to any desired angle to make this connection. A butterfly starting shutter is closed when cranking the motor, shutting off all the air and causing the motor to draw into the cylinders a very rich mixture, which enables it to start very easily. This carbureter is made in two sizes only, ¾ inch and 1 inch.

WARNER INSTRUMENT COMPANY, BELOIT, WIS.—This concern had on view the same little auto-meter that was exhibited at the Grand Central Palace Show, in addition, of course, to their larger automobile sizes. This is identically the same in construction as the big Warner instruments for automobile use, the only difference being in size. The driving gears for the auto-meter are worked out on a different scheme from anything that has gone before. Fastened on to the front gear is a worm gear, made of brass, that is designed to do away with all loose play, etc. Recently fifteen of these instruments were sold to the San Francisco Police Department, and have been placed on all of the motorcycles used by the police in that city. This will furnish them their first official tryout, and the motorcycling pubic will anxiously await reports from the Golden Gate. As yet no price has been fixed on the instrument, but it is probable it will list at a slightly higher figure than some of the others.

ATLAS RUBBER COMPANY, BUFFALO, N. Y.—A "non-puncture" inner case was shown by this concern that looked "all to the good," as many visitors expressed it. In the construction of this device, metal discs are so arranged in a cushion of rubber as to render it impossible to puncture the inner tube when the inner case is in position between the tube and outer casing. It is claimed that no additional heat is generated by its use. That it is impossible to puncture the case was demonstrated most satisfactorily; visitors were invited to try their skill at driving nails through it. Of course, this was impossible. The case extends down to the bead of the outer casing, thus supporting the tire where blowouts are most likely to occur. The Atlas people claim that an increased mileage of from thirty to fifty per cent. is assured by the use of this inner case.

PENNSYLVANIA RUBBER COMPANY, JEANETTE, PA.—This concern has just brought out an entirely new flat tread tire, made of the very highest grade rubber, which they call their racing type. This was shown for the first time at their exhibit at the Garden. It is a moulded tire, similar in construction to their automobile tires. Just under the tread is what the manufacturers call a "warning strip." This is just a narrow strip of canvas fabric placed in such a position that it warns the rider that it is time to have his tire retreaded. The minute the canvas on the strip begins to show through it is time to have a new tread put on. This tire is listed at a slightly higher price than the two other Pennsylvania products. These are the corrugated tread and the basket weave tread. There was one other tire shown at the Pennsylvania booth—a steel studded non-

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$50 in Gold to

G & J Motorcycle Tire
Corrugated Tread

$25 first prize; $15 second
the best advertisements on
Tires. Open to all riders.
purpose and conditions of th

WE who **make** Indianapolis G & J Motorcycle Tires know their merits too well to **advertise** those merits as forcefully as we should. In other words we may be compared to the undefeated racer.

He becomes so accustomed to defeating competitor after competitor that he doesn't feel the elation, the **enthusiasm** that makes his **audience** cheer him to the echo. He **expects** to win.

It has become a **habit** with us to make tires of **unvarying** superiority. The result is that we have lost the power to **express** their excellence as enthusiastically as the **rider** who **uses** them.

We talk from the viewpoint of the manufacturer who knows that certain processes produce certain tires. He talks from the viewpoint of the user who sees the **results** these tires give in actual service.

And it is **results**—not causes—that tire users want to know.

We therefore offer the above prizes to obtain the opinions of motorcyclists on Indianapolis G & J Tires.

If you use them (and very few don't) tell **your** experience with them. Add to it, if you wish, the opinions of your friends.

G & J TIRE COMPA

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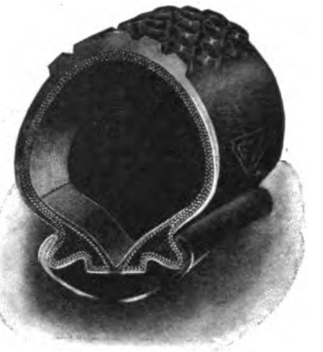
Motorcyclists

prize; $10 third prize for ndianapolis G & J Motorcycle No restrictions. Read the e contest below and get busy



G & J Motorcycle Tire
Bailey Tread

If you have never used them, you very probably know several things that other motorcycle tires don't do that they should. You can truthfully assert that Indianapolis G & J Tires **do all** these things.

Briefly, the point is this. Write the best advertisement you can—an advertisement which you think will interest other riders. Don't stint yourself. Make it as long as you wish. Have it in the form of a reading notice or a display ad. But make it **interesting.** You don't have to be an ad-writer to do that.

All advertisements must be in our hands not later than April 15.

The prizes will be awarded by a committee of three outside of this company—consisting of the advertising manager of this paper and advertising managers of two other publications.

No contributions will be returned and we reserve the right to use any in addition to the prize winners.

The names of the winning contributors will be published in this paper as soon as the judges make their award.

Write **your** advertisement at once and send it to the

NY, Indianapolis, Ind.

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skid, especially designed for hard road work. It is a chrome leather protected tire, and has a double row of steel studs staggered down the center of it. It is ideal for winter riding and for heavy tandem or sidecar work.

ANDERSON FORGE & MACHINE CO., DETROIT, MICH.—While not showing any articles especially adapted for motorcycle use, had on view a stock of sample drop forgings, such as tools, crankshafts, chisels, etc., that gave an excellent idea of the class of work turned out by the Detroit concern. Of especial interest to the visiting motorcycle designers were the connecting rods, gear blanks, sprockets, cams, and other small forgings. Some of these were shown in the rough, and others in the final turned and finished product. The latter were splendid examples of workmanship and materials.

EASTERN CARBON WORKS, JERSEY CITY, N. J.—Showed their famous dry cells, battery connectors and pocket volt ammeters. The little circulars they handed out to visitors were very cleverly gotten up, and abounded in interesting quotations, etc. For instance: "A spark or not a spark, that is the question," and "If Ben Franklin were alive today he probably would have said 'for want of a spark the auto was lost.'" Of course, the most space was devoted to explaining the merits of the Eastern dry cells.

AUTO IMPROVEMENT COMPANY, NEW YORK CITY.—The "Ever Ready" speed indicator, similar in construction and appearance to that marketed by this concern last year, was shown. There were two models, both of the instruments being almost identically the same as last year's models. No changes are incorporated in their construction, but the prices on both have been reduced. Instead of $15 and $20 for the sixty and eighty mile models, respectively, this year the former will sell for $12 and the latter for $15. The $15 instrument, called the "Milometer," has an eighty mile dial, with a total mileage odometer. The "cyclometer" is also furnished with a maximum hand attachment, and this instrument sells for $15.

COES WRENCH CO., WORCESTER, MASS.—In addition to the regular line of Coes automobile wrenches this firm showed a new six-inch motorcycle wrench that opens up to one and three-sixteenths inches. This is made of the same drop forged materials that has made the larger Coes famous, and should be just the thing for motorcyclists. It is large enough for every purpose, except to straighten pedal cranks with, and is the handiest ever for all around purposes. When the jaws are closed there is a slight V-shaped taper between their faces. The makers claim that this causes the wrench to close up perfectly on a nut, making it impossible to "chew off" the corners with it as the ordinary bicycle wrench has a habit of doing.

BALDWIN CHAIN MANUFACTURING COMPANY, WORCESTER, MASS.—Showed samples of the new Baldwin roller chains that were interesting to riders of chain driven machines. These are both riveted and detachable; for the latter it is claimed that it is impossible to loose the clips, or fasteners. These are simply small discs, very much like a thin washer with about one-sixth of its circumference cut away. These are fitted into a rather deep groove cut in the end of the connecting pin, and are then closed with a pair of pliers. They can be removed with the aid of a screwdriver, and each one can be used several times before it will break.

NATIONAL TUBE COMPANY, PITTSBURG, PA.—In the descriptive matter of nearly every motorcycle manufacture we read that frames are made of "cold drawn Shelby steel tubing," of twelve or fourteen or sixteen gauge, as the case may be. But even then not every rider knows just what this means. Therefore the exhibit of the above concern was of great interest to those of an inquiring turn of mind. On a large table was spread about a hundred different samples of this tubing, everyone of them bent and twisted beyond all recognition of their original forms. This was done to show the great strength of the tubing; the demonstrator was able to tell just how much weight it took to bend each piece, and the figures were amazing, to say the least. There was also a splendidly gotten up, forty-eight page book on "Shelby Steel Tubes and Their Making," to be had for the asking. This is filled with interesting reading matter, and pictures, showing the many processes, tools, etc., that contribute toward the making of steel tubes.

JOSEPH DIXON CRUCIBLE COMPANY, JERSEY CITY, N. J.—A very interesting demonstration of graphites, and how graphites can be successfully used in motor lubrication, was shown by this concern. A number of gears running in a case, similar to an automobile transmission, occupied the center of the booth and attracted much attention. For lubrication in the gear-box Dixon graphite lubricants were used. For motorcycle use the Dixon Company recommends a slight quantity of the best flake graphite in the lubricating oil. This, they say, will afford better lubrication and at the same time give the oil longer life. Another use for flake graphite is given in the Dixon booklet. If a little of it is sprinkled on the inside of tire shoes it will prevent the tube from sticking, and the graphite will be found better than chalk or soapstone because of its superior lubricating qualities. It is also recommended that rims be treated in the same manner as a preventative of rust.

VACUUM OIL COMPANY, ROCHESTER, N. Y.—The famous vacuum Mobiloil B, which has been marketed by this Company for some little time, especially for motorcycle use, has proven its worth so thoroughly that there is only one motorcycle manufacturer in the whole country who does not recommend it, both for winter and summer use. The oil is satisfactory, and a good test of it in the motor before attempting a stiff climb gives the jigger remarkable climbing powers. This one oil has been developed especially by the Vacuum Oil Company for motorcycle use.

HAVOLINE OIL CO., NEW YORK CITY.—Had on view two distinct grades of oil, and two weights of each. The Havoline oil No. 7 and No. 10 is a dark colored medium and heavy weight oil, and their crystal Nos. 7 and 10 exactly the same weight, but in appearance it is totally different. It looks about the color of sewing machine oil. This concern will furnish both Havoline and crystal oils in half-gallon cans, especially for motorcycle use during the coming year, in fact, some of it has been put out already. The N. S. U. Motor Company intend to use it quite extensively.

J. S. BRETZ CO., NEW YORK CITY.—Showed one of the U & H high tension magnetos in motorcycle size. Several advantages are claimed for this magneto. They are fitted with a starting device that enables the motor to start very readily. The magneto delivers the high tension current without the use of an auxiliary induction coil. Its lines follow that of standard magneto construction, with horse shoe magnets, etc. The electrical operation and method of wiring is also similar to the accepted standard in magneto construction.

A. W. HARRIS OIL COMPANY, PROVIDENCE, R. I.—The exhibit of this concern consisted of several vessels, each containing a different grade of Harris lubricating oils. From each of these the oil dripped and flowed down an incline into another vessel. The light oil, of course, ran faster than the medium, and the medium faster than the

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THE EXCELSIOR AUTO-CYCLE

LOW SADDLE POSITION-LONG WHEEL BASE-LOW DISPOSITION OF WEIGHT

A Few of the Many Points Wherein
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A powerful, silent, vibrationless motor that is big enough for the job and does not wear itself out by excessive speed to meet the overload.

A straight-line frame that is built on scientific lines, with every point of stress properly reinforced, not merely a collection of tubing bent to dodge the motor and accessories and heavy enough to hold up by main strength and awkwardness.

A low, comfortable saddle position that lowers the center of gravity, eliminates skidding and makes the Excelsior Auto-Cycle the touring car of motor cycles.

A shock-absorbing front fork that acts along the line of impact, that overcomes all road irregularities without jolt or jar.

A lubricating system that places an abundant quantity of oil where it is needed and keeps it there and not on the outside of the machine or the rider.

An accessible machine, in which all parts may be reached with the least possible interference with any other part, and the wheels removed without interference with mud guards or other accessories.

Independent belt and chain adjustment, whereby both belt and chain may be kept at proper tension.

Low saddle position and free motor, enabling the rider to stop at will without stopping the motor, rest comfortably in the saddle with both feet on the ground, and proceed by merely advancing the tension lever and replacing the feet upon the pedals.

A machine that is sold at a fixed and invariable price by established dealers only, thereby protecting the buyer from depreciation in value through price-cutting by overstocked dealers or curbstone brokers.

A machine that is backed by the financial strength, factory facilities and sterling reputation of a company that has been in business since 1876.

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heavy grades. For motorcycle use the Harris Company recommends their heavy grade. Their business in this oil has increased during the past year fully sixty per cent., which increase they attribute solely to its use by motorcyclists. There has been a demand from the riders to have this oil put up in quart cans, and this will be done during the coming year.

AVERY PORTABLE LIGHTING CO., MILWAUKEE, WIS.—At the booth of this concern was shown one of their small motorcycle gas tanks. For those who do considerable night riding this little tank, which is two by fifteen inches and weighs about four pounds, will afford a constant supply of gas for a one-quarter inch burner, for at least twenty-eight hours. The tank contains seven cubic feet, under a pressure of about 150 pounds to the square inch. It is listed at $7.50, and the recharging costs 75 cents.

G. L. ECONOMIZER COMPANY, NEW YORK CITY.—This is an air controller made under the Gillett-Lehmann patent, and is designed to give the motor the right mixture at all speeds. The operation of it consists in converting atmospheric pressure in the float chamber into a partial vacuum, which is controlled by the speed of the engine, and is therefore automatic. This economizer can be attached to all types of float feed carbureters.

GEO. A. HAWS, NEW YORK CITY.—The manufacturer of Panhard oils was showing a heavy oil which he recommended very strongly for motorcycle work. This was only slightly heavier than the medium weight Panhard, and is suitable for use all the year round. It is said to be remarkably free from carbon.

UNION BATTERY COMPANY, BELLEVILLE, N. J.—Showed dry cells for automobile, motorboat and motorcycle use. For the latter they make No. 5, which has a 1-6—10 volt cell, twenty-five to twenty-eight amperes. It is two by five inches in size, and lists for twenty-two cents.

MOTORCYCLE MART—IT SELLS THE STUFF

Buy; Sell; Exchange. Two Cents a Word. Cash With Copy

FOR SALE—Columbia motorcycle in good order. 2¼-h. Has been used very little. Write for particulars. Raymond F. Haviland, Hightstown, N. J.

FRENCH GREY Curtiss Twin, perfect condition. Marsh-Metz 1908 spring fork and double grip control. New Cylinder, piston rings, bearings, cams and timer. Rear wheel band brake operated by pedal on footrests. Extra 2½ inch shoe and tubes, spare rings, valves, cages, springs, cylinder and timer. Price, $180. Address X, care of MOTORCYCLE ILLUSTRATED.

FOR SALE—1908 Indian Tricar, French Grey, Red Upholstering, Tandem weight tires, run 300 miles, $60. F. R., care MOTORCYCLE ILLUSTRATED.

FOR SALE—1908 M. M. Special, in fine condition, 3-h., first check $150 takes it. Wm. A. Sachs, Jr., Box 892, Miami, Fla.

FOR SALE—5-h. Twin Indian, tricar and fan attachment, used about 500 miles. Enameled French Gray and red trimmings. Also 5-h. twin Indian. Write for particulars. Automatic. Address care MOTORCYCLE ILLUSTRATED.

FOR SALE—1908 twin Indian, with Bosch magneto, seven quart gasoline tank on top bar, brand new set of Morgan & Wright basket weave tires, rough rider grips, and many other extras. Has just been thoroughly overhauled, having all worn parts replaced by new ones and also has a new frame. The machine looks like new as it has only been ridden a short distance. Just as good as a 1909 machine. Will sell for $200. R. J. Keller, Jr., 88 Broad street, Boston, Mass.

FOR SALE—One 1908 model, 6-h., double cylinder Curtiss machine. Price for quick sale, $150. For further information address Wm. G. Lauterbach, Mendota, Illinois.

FOR SALE—1907 twin Curtiss, in fine condition, perfectly satisfactory. New Curtiss carbureter, practically new belt. Write for particulars. W. B. Glasser, 23 West Buena Ventura street, Colorado Springs, Col

SEVERAL good bargains in second hand motorcycles, from $65 up. Write for particulars. Carl U. Bush, Caldwell, N. J.

INDIAN motorcycle, torpedo tank, new tubes, good condition. Will sell for cash or exchange for footpower screw cutting lathe and cash. What have you? M. L. Van Kuren, Box 94, Danbury, Conn.

INDIAN twin, 1908, perfect condition, twenty mile demonstration, $170. Brandes, 133 West Eleventh street, New York City.

FOR SALE, cheap. One 1908 twin Indian. For price and description address Bert Kingsbury, Ripon, Wis.

FOR SALE—A single cylinder, 1908, 3-h. Curtiss, in excellent condition. New tires, cost $200. Make offer O. H. Crooker, Unadilla, N. Y.

FOR SALE—1908 Indian twin, 5-h., rode but 1,100 miles, in excellent condition, with stand, cyclometer, horn, etc. Price, $165 cash. Geo. A. Bancroft, New Britain, Conn.

SAVE chain trouble by using Ball Bearing Fibre Idler, fits Indian, R-S, Thor and Light motorcycles. For cut and price address A. C. Mount, 1158 Washington street, Elizabeth, N. J.

A DESIGNER, improver and technical expert with long and successful record as a salesman, competition rider and general advertisement and business man wishes to become connected with a first class manufacturer in any locality or would be a factory representative in good district. Technical, care of MOTORCYCLE ILLUSTRATED.

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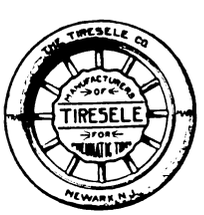

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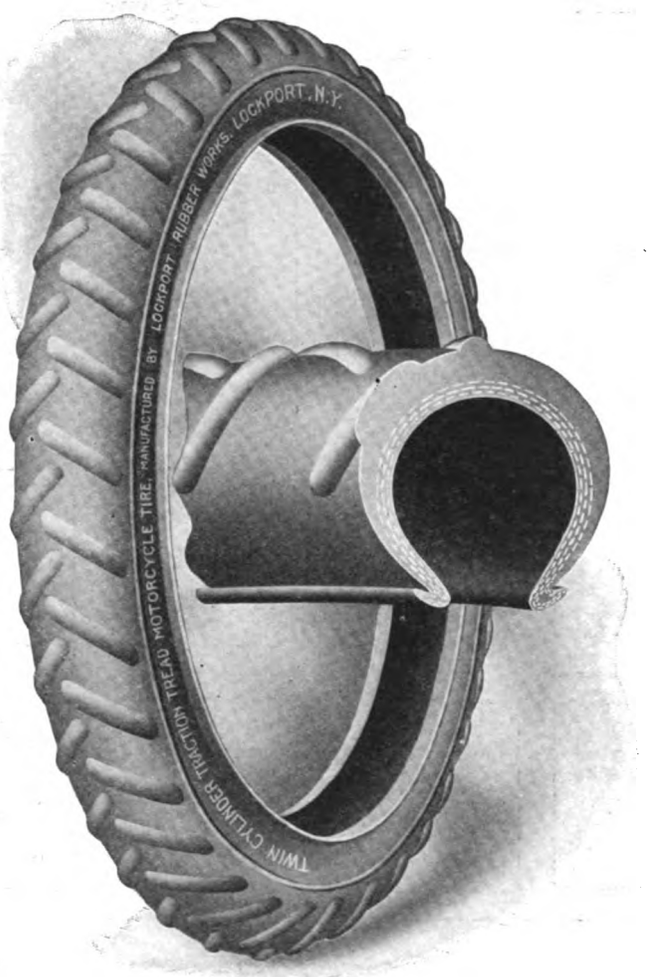
(Not Built Like a Bicycle Tire)



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Traction on the Level

Traction on the Turn

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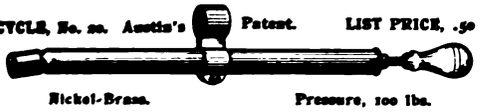
TRI-CARS AND VANS

THE big 6-h. non-convertible tricar that was shown by the N. S. U. Motor Company at the Madison Square Garden Show has been purchased by Mr. S. Nemtzoff, of the Business Service Agency, 147 Fourth avenue, New York City. Mr. Nemtzoff has been a tricar devotee for several years, and it was the several special features about the N. S. U. tricar, such as the two-speed hub, etc., that decided him to purchase it. As soon as the car was released from the Show on Sunday morning he drove it away. The sale was put through by J. F McLanglin, the New York City N. S. U. agent, who has two other prospective purchasers of similar cars at the point where they are about ready to close the deal.

J. LEICHT, proprietor of the Amidon Market, at 2296 Broadway, recently purchased an Indian delivery van from F. B. Widmayer, the uptown Indian agent. This van has been in use for two months, making special, quick deliveries during the holiday rush and through the recent snow storms, and has proven itself satisfactory in every respect. Mr. Leicht is more than pleased with the van, and declares that in the spring he will purchase more of these vehicles.

A PERFECT MOTORCYCLE PUMP

MOTOCYCLE, No. 20. Austin's Patent. LIST PRICE, .50



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FLEXIBLE COUPLING, FITS ANY TIRE VALVE. GUARANTEED 100 POUNDS PRESSURE EASILY. IS VERY DESIRABLE.

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The Neverout

TRADE MARK

MOTORCYCLE OIL LAMP

Showing a Red Rear Light

The Neverout Motorcycle Lamp, with combination tail light, showing rear view. (Patented)

A combination of headlight and tail light in one lamp.

The Neverout burns kerosene oil 16 hours with one filling and will stay lighted under any and all conditions. All riveted—will not rattle apart over the roughest roads. Sold on ten days' trial. Price $3.00 complete.

The Neverout is equipped with a patent glass-covered reflector, made of pure German silver; never loses its original brilliancy; instantly removable. Guaranteed to stay lighted or money refunded.

Made in gun metal, brass and nickel finish.

The only perfect and reliable motorcycle lamp made.

If your dealer cannot supply you, write us direct.

Dealers: Write at once for our proposition.

ROSE MANUFACTURING CO.

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We are exhibiting our leading models at the Sportsman's Show, February 26 to March 6. Immediate Deliveries.

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On every Goodyear Strong Fabric Motorcycle Tire there is a Free Repair Tag entitling the purchaser to repairs FREE OF COST for one full season. Goodyear Tires are made of the finest NEW rubber. It costs $1.20 a pound. We could use 35 cent rubber or even old rubber "reclaimed" by heat and acid. But one Goodyear outwears several of these. Send for sample.

GOODYEAR TIRE & RUBBER CO., Mott St., Akron, Ohio

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MOTORCYCLES IN STOCK

3½ H. P. Single Cylinders

7 H. P. Twin Cylinders

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Distributors for New York and Long Island of

Royal Pioneer and Reliance MOTORCYCLES

Everything for Motorcycles and Their Owners.

Did you ever see the

Harley-Davidson One Piece Cylinder?

Well, We Make Them!

Let us figure on your iron castings. We are making a specialty of motorcycle cylinders.

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Advertise your second hand machines in the

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It Sells the Stuff. Two Cents a word

C.O.T. Gum Gum. Ask your dealer how nicely it repairs digouts in your auto shoe. For sale by jobbers. CHAS. O. TINGLEY & CO., Rahway, N. J.

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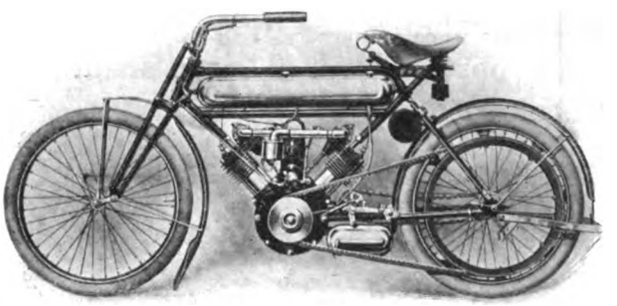
What - The - Horseless - Age - Says

Motorcycle Construction as seen at the Madison Square Garden Show

"The number of double cylinder engines has increased, in response to a demand for greater power, but, strange to say, very little attention has been paid to the subject of proper balance. Many makers of single cylinder engines make the absurd claim that they have perfectly balanced their engines. Only two American makers have given this subject any serious attention. The new Pierce four cylinder has, of course, a good balance; but in the case of the M. M. 90 degree twin a double cylinder engine has been produced with a better balance than a four cylinder. The placing of the cylinders in this type of engine at 42, 45 or 50 degrees produces an engine as poorly balanced as a single cylinder of the same power."



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AMERICAN MOTOR COMPANY

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BROCKTON MASS.

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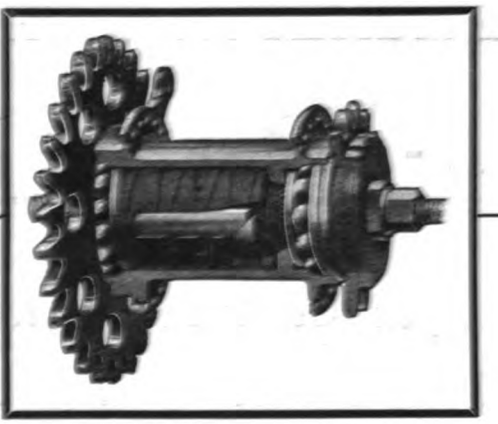


Coasting Down the Steepest Hill

The Eclipse Motorcycle Coaster Brake

Stands the Punishment

We have been making coaster Brakes for years and ought to know how.

THE 1909 ECLIPSE COASTER BRAKE

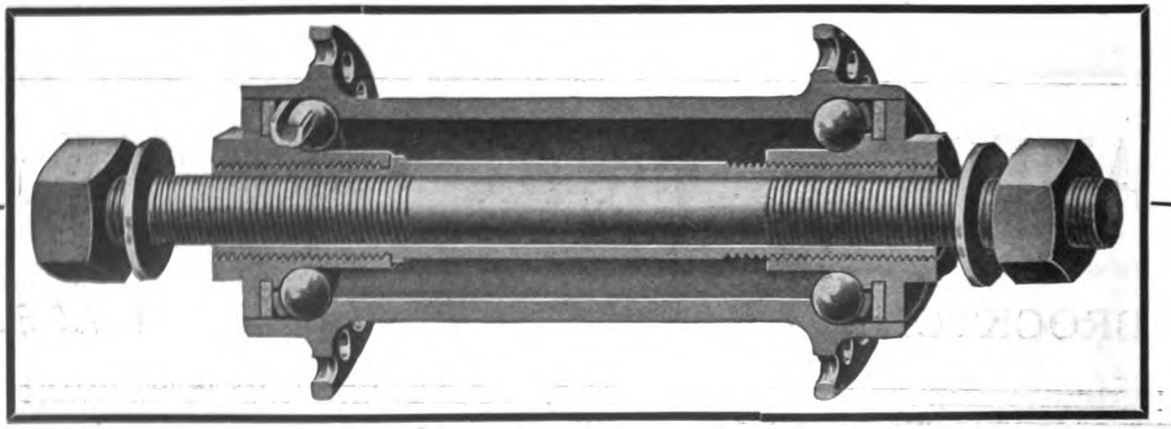
is strong, capable, simple in construction. Only eight parts—none of them small, delicate, easily broken or deranged.

Largest Braking Surface Ever Used

Write us for the whole story.

Eclipse Machine Company, Elmira, N. Y.

Licensed Coaster Brake Manufacturers



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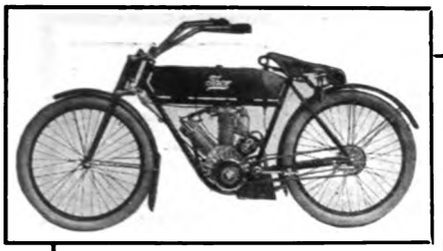

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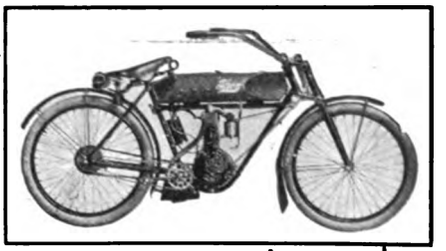

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Supreme in Workmanship
Supreme in Quality
Supreme in Efficiency
Supreme in Durability

Thor Method of Transmission is Absolutely Supreme

Only one Chain used—which will run hundreds of miles without adjusting and thousands of miles before wearing out.

Don't delay in securing the Thor Agency, it sells so easy.

Write today, Department M.

Aurora Automatic Machinery Co.

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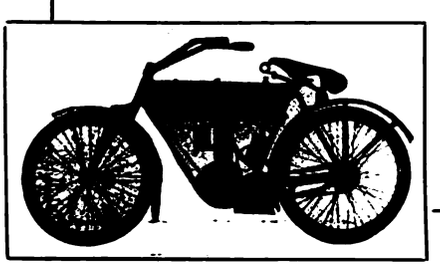

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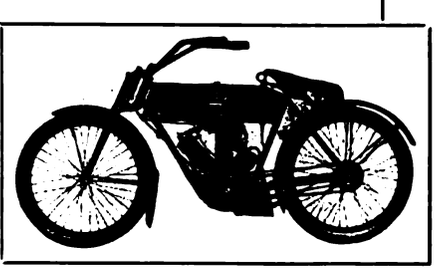

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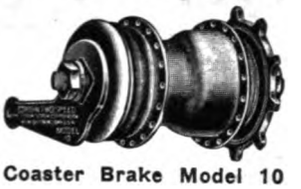
Corbin Duplex

Coaster Brake Model 8

Corbin Two Speed



Coaster Brake Model 10

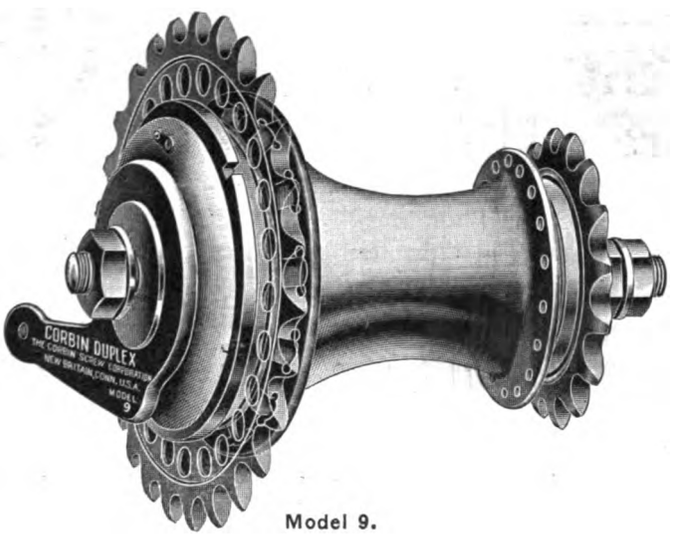
Ask for

Model 9 Motorcycle Coaster Brake

Built Throughout for Motorcycle Use.

½ inch Axle. Larger Bearings, giving longer life.

The Inside Diameter of the Brake Drum is 3 Inches, with Brake Shoes ½ inch wide, giving double the Braking Surface of Any Other Model.



Model 9.

Model 9 is 5⅜ in. long outside of cones $1^{15}/_{16}$ chain line.

Model 9A is 6⅜ in. long outside of cones 2¼ chain line.

Made for either Belt or Chain Drive Motorcycles.

Heavy Front Hub to match.

Any size sprocket, either ⅞ or 1 inch pitch.

Complete Catalogue on Request

Corbin Rear

Hub Model 26.

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Licensed Coaster Brake Manufacturers

The Corbin Screw Corporation, HIGH STREET NEW BRITAIN, CONN.

Representatives will be at Boston Show

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DID YOU Examine the New STANDARD

Motorcycle Speedometer at the Shows?

If not, we will be glad to send you our catalogue, now ready, which tells the whole story.

Three inch dial. Sixty mile scale. Complete with shaft and fittings.
Price $15.00.

Three inch dial. Sixty mile scale. Complete with shaft and fittings and 10,000 mile odometer.
Price $20.00.

These instruments are the very best that can be produced for the purpose AT ANY PRICE. We have spent two years in perfecting the STANDARD for motorcycle use; we have now got it where it is mechanically right. An automobile speedometer in miniature cannot give perfect satisfaction on a motorcycle—conditions are radically different. We have found this out, and the STANDARD speedometer is a motorcycle speedometer.

Our proposition is a good one for Agents. Write us.

PARKER MFG. CO., Clifton Street, BOSTON, MASS.

Note the direct shaft drive. No kinks or bends to cause trouble. Shafts furnished in any length to fit different machines.

This cut shows the standard from the rider's position in the saddle. The dial is where it can most readily be seen without effort on the rider's part.

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A YEAR'S RECORD

At the Chicago Show, a large proportion of motorcycles on exhibition were equipped with Morgan & Wright tires. All this accomplished in the one short year since they were first placed on the market.

The quality of the tires simply forced manufacturers to equip them on their product.

Morgan & Wright Motorcycle Tires

during the coming year will run away ahead of last season's record. This is not simply a prophesy but a statement of fact based on the orders already on our books.

1909 will be a Morgan & Wright year

MORGAN & WRIGHT - Detroit

MORE EVIDENCE OF THE DRIFT TOWARD

Mesinger Motorcycle Saddles

provided with

Fibre Friction Shock Absorbers

Adopted as Regular Equipment on most of the Four and Two Cylinder Machines.

"CAVALRY" No. 3
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Agents and Riders

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There is little difference in the price, but a large difference in comfort.

The Mesinger Cavalry Saddle is made like a horse saddle—it prevents you from slipping and avoids that crampish hold of the hands on the handle-bars.

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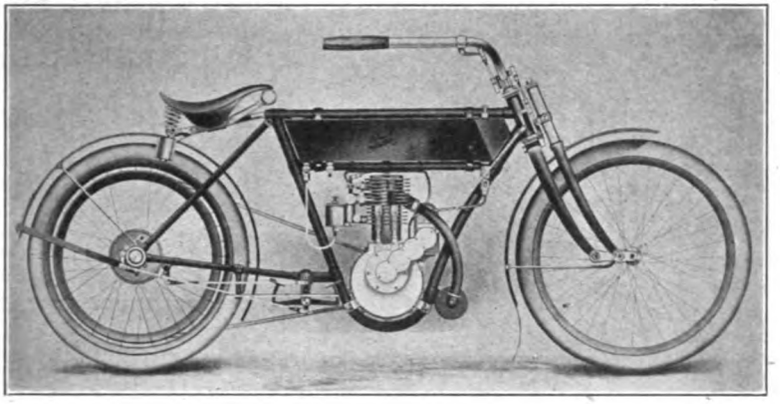

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Best Agent Proposition to Date

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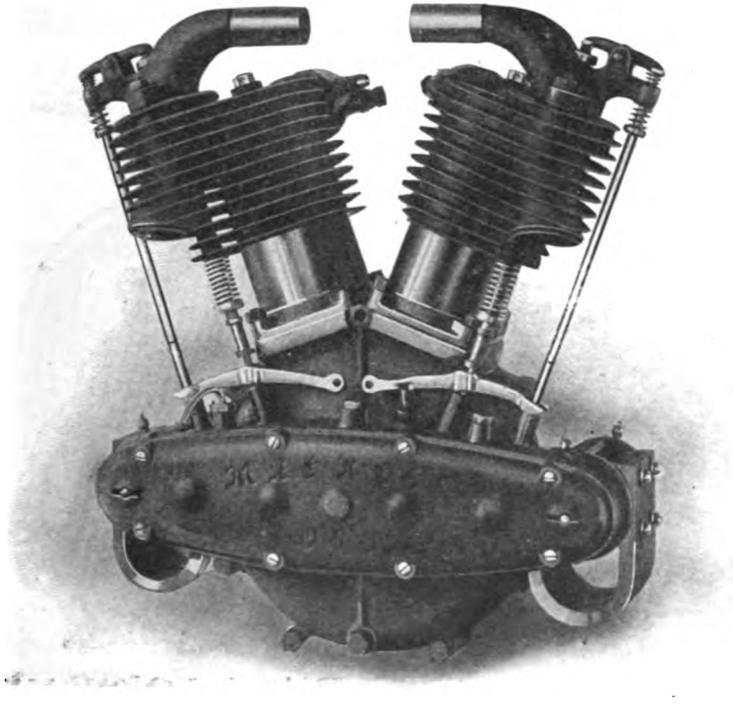

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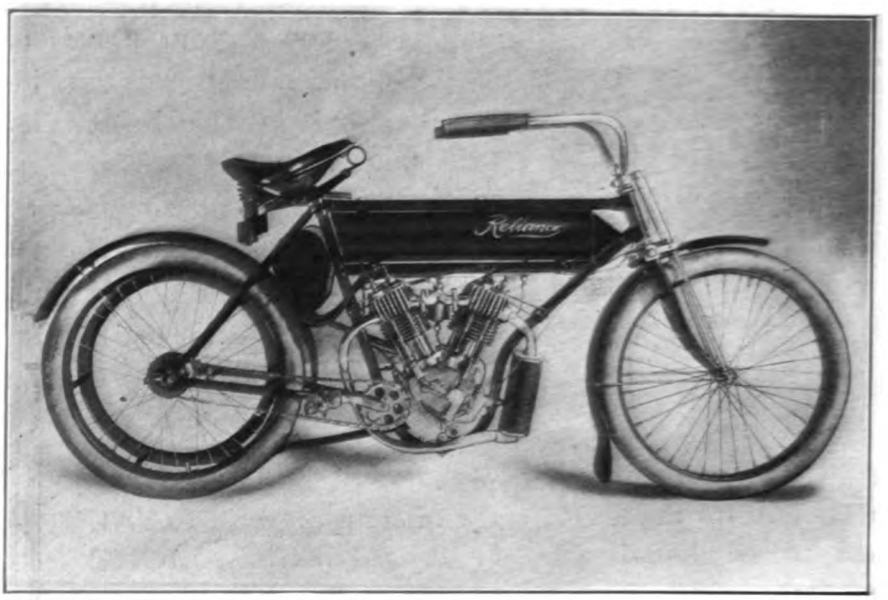

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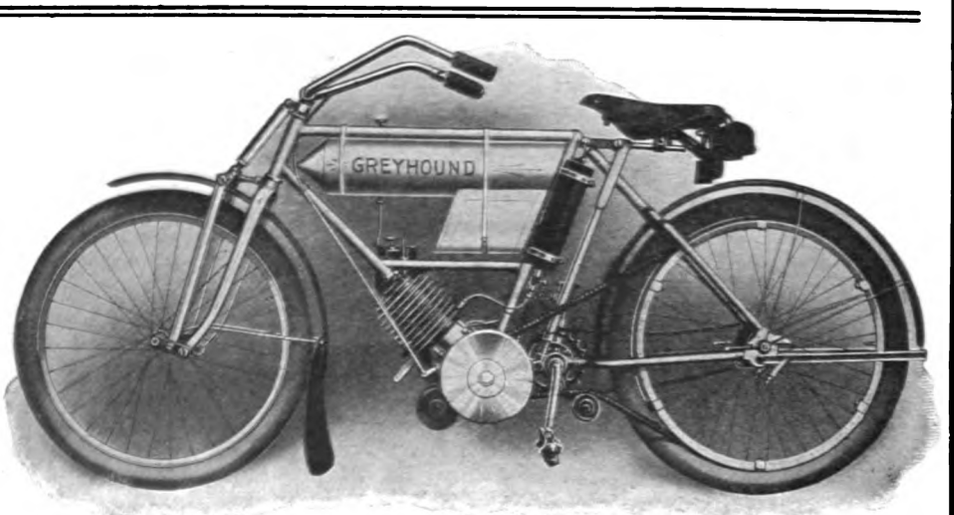

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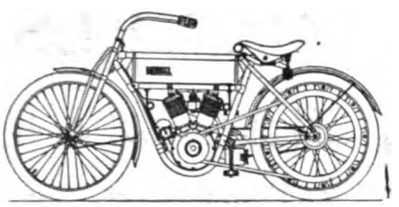

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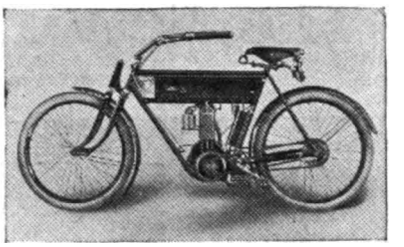

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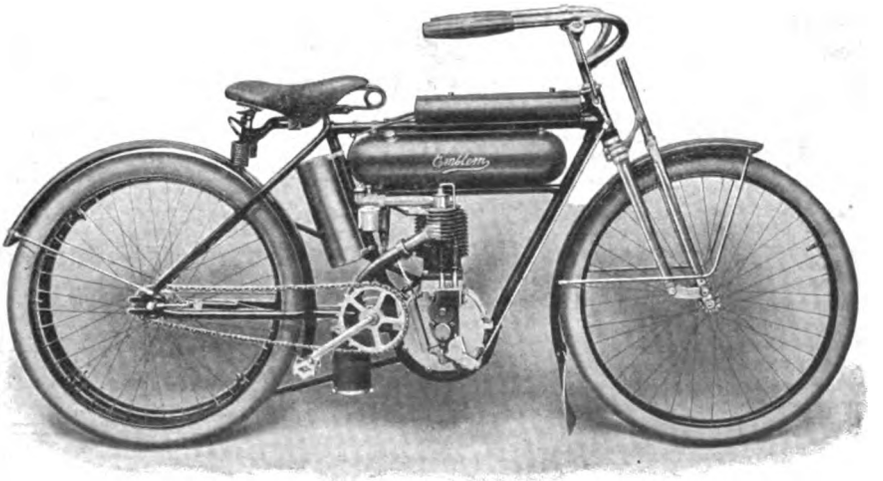

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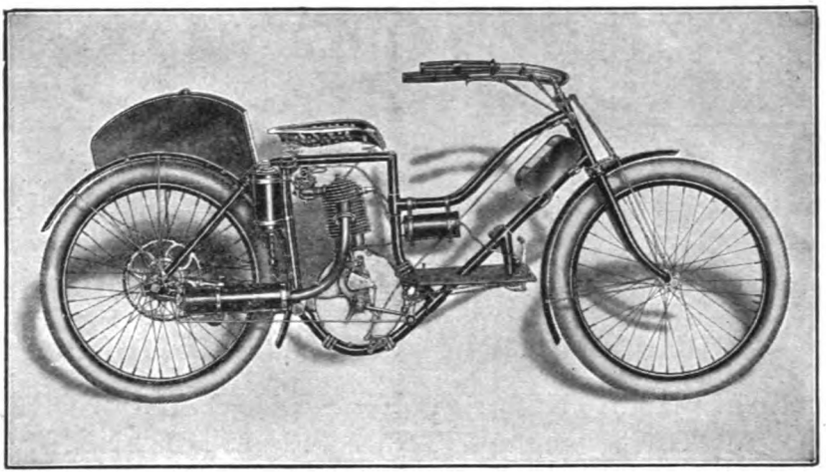

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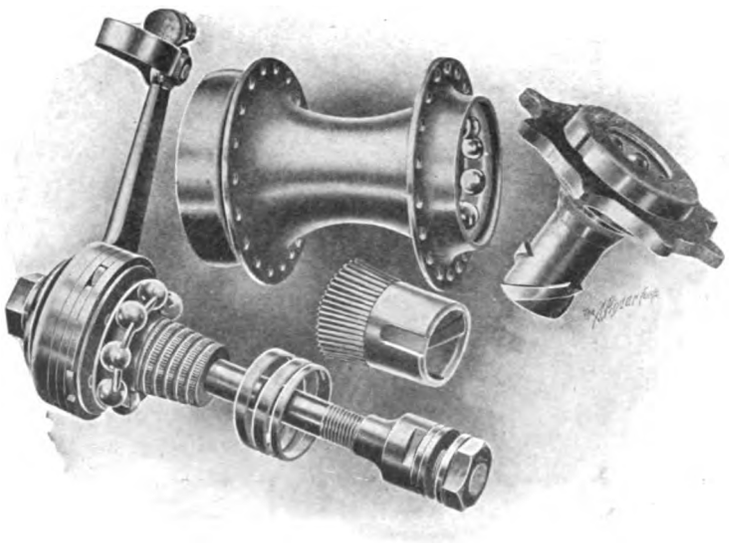

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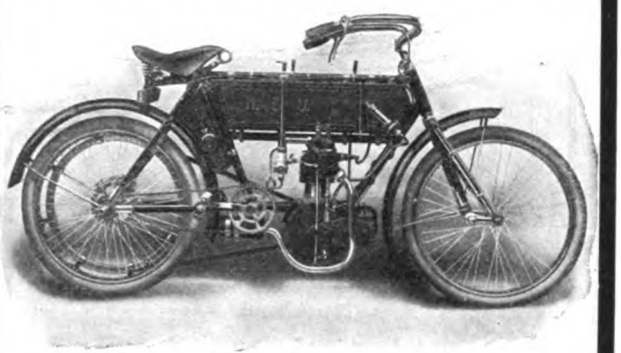

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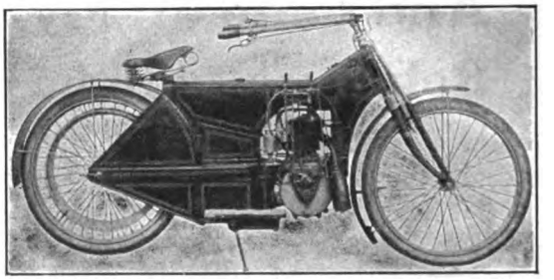

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The Herz Magneto

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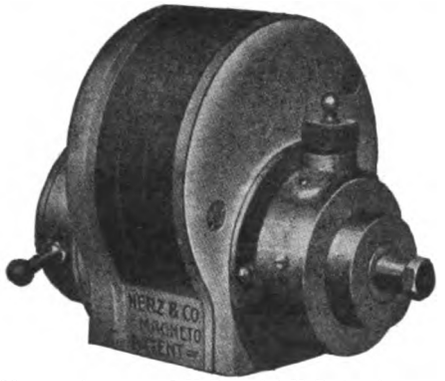

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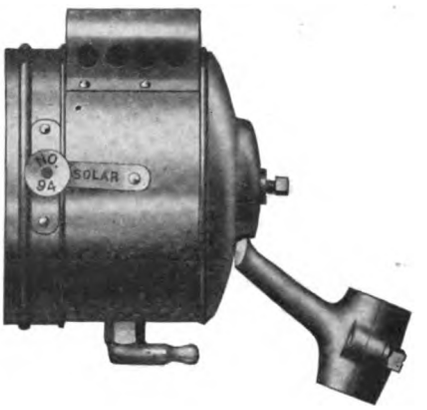

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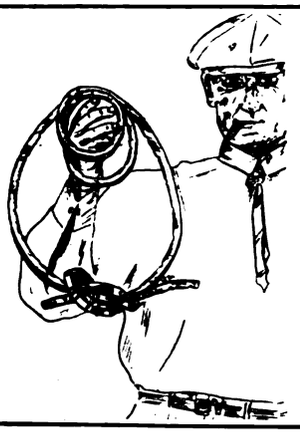

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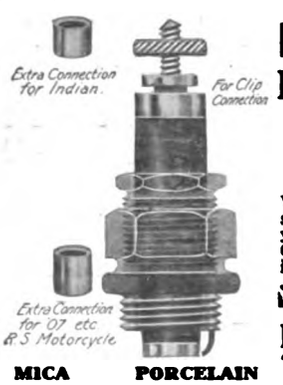

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isn't that the one you should secure at once and insist upon getting?

The Reliance is tested to *"Spark in Water."* It is absolutely proof against any damp or wet condition. It produces the most intense spark. It is carbon and soot proof and has a longer satisfactory life than any other.

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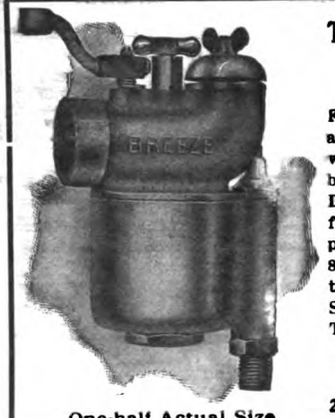

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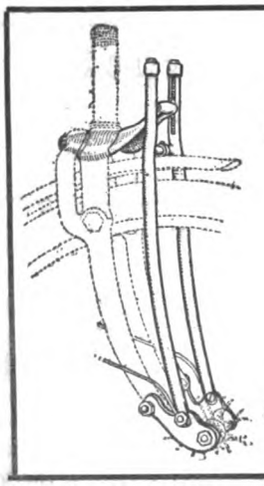

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MOTORCYCLE ILLUSTRATED

Vol. IV. No. 6 March 15, 1909

PUBLISHED BY THE MOTORCYCLE PUBLISHING CO., 299 BROADWAY, NEW YORK CITY

IDEAL INDIANAPOLIS

Western Men Hustling to Land F. A. M. Annual Meet There. Why It Is "Best"

IT may be taken for granted that the next annual meet of the F. A. M. will be held in Indianapolis. On account of its location and the inducements it offers for racing, the city is attracting the attention of the majority of manufacturers and officials of the F. A. M., with a view of having the 1909 meet there, instead of East. Practically all of the motorcycle manufacturers who have been approached on the subject have stated that Indianapolis would be the ideal place for the coming event. As a representative of a well known western manufacturer put it:

"We have told you we wanted the 1909 F. A. M. meet, and practically everybody interested in the motorcycle game has told us he was going to vote for Indianapolis. We appreciate this unanimous support, and if we get the meet we will leave no stone unturned to make it a big success. We believe we have better facilities for this meet than any other city in the United States. We have a beautiful city, good accommodations, wide streets and many good boulevards. After May 15th, we will have the finest motor speedway in the world, which can be secured for the national motorcycle meet, if held here. The two and one-half mile circular outside track is fifty feet wide and sixty feet on the curves, banked suitable for a speed of 100 miles per hour. The inside course is also two and one-half miles, twenty-five feet wide in the straights and thirty-five feet on the curves, and is well banked."

The general detail of the equipment of the grounds will be more complete than has ever yet been attempted in this line. It is conveniently located on a flat plateau three and one-half miles northwest of the center of the city, and is connected with a well improved road. There will be three main grand stands with seating capacity of 35,000, and twenty individual grand stands placed at convenient locations about the track, each of these grand stands raised ten feet from the ground and having accommodations for fifty persons, making it convenient for clubs to attend in a body and have their grand stand for their own members, and raised high enough so that they can all command a view of the entire track.

This track will have the unique distinction of being the only speedway and racing course in the world where the occupants of the grand stand and spectators can see the motorcycles at their highest speed, and at the same time see the riders make the curves on the inside course. This course will be the safest high speed motor race course in the world. The plot of ground is entirely level. There will be no fences or buildings closer than fifty feet to either the outer or inside roadway. The track will be so constructed that it will graduate off to the level ground, except where the turns are banked, and these will be so graduated back to the level as to insure every possible precaution for the safety of drivers and spectators.

The finest speedway in the world isn't all that Indianapolis has to offer as an inducement for the 1909 meet. Indianapolis is well equipped for endurance runs, hill climbing contests, etc.

Present plans include an estimated expenditure of $500,000, and the work of construction, which will be conducted under the supervision of P. T. Andrew, a New York engineer, began recently. The contracts call for the completion of the course by May 15, and the first event will, it is expected, be run early in June.

The Indianapolis Motor Speedway Company is organized under the laws of Indiana with a capital stock of $200,000. The stockholders and officers of the company are Carl G. Fisher, President of the Prest-O-Lite Company, President; A. C. Newby, of the National Motor Vehicle Company, Vice-President; F. H. Wheeler, of the Wheeler-Schebler Carbureter Company, Second-Vice-President, and James A. Allison, Secretary and Treasurer.

The object of the Motor Speedway Company is to furnish suitable track and road facilities for the driving and testing of American cars and motorcycles for long distance or high speed contests, and to have a suitable track and road course where these tests and trials can be made at any time of the year. Such trials are necessary; also to furnish suitable grounds and quarters for outdoor shows and meetings of automobile engineers, manufacturers or dealers.

The general detail of the equipment of these grounds will be more complete than has ever yet been attempted in this line. The grounds are conveniently located on a flat plateau three and a half miles northwest of the center of Indianapolis, and is connected by a one mile improved road with the elaborate boulevard system of the city.

The New York Central Railroad passes the southwest corner of the track, and will have a 2,000 foot switch on the ground with an unloading platform and railroad station. The I. & C. interurban line also passes the southwest corner of the grounds, and will have a street car and interurban station on the premises, making it convenient for both steam and electric trains to land passengers, and also for the direct shipment of racing cars or pleasure vehicles to the grounds to be unloaded inside the grounds.

Ample sidetrack facilities will be placed for the conve-

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GATEWAY TO THE NEW MOTOR SPEEDWAY.

nience of special club cars or private cars, so that same may arrive at the grounds for any important race meets.

Chicago motorcyclists are at present organizing several pathfinding expeditions to the Indiana city. John T. Fisher, manager of the Chicago branch of the Hendee Manufacturing Company, producers of the Indian motorcycle, has sent two machines over the road from Chicago to Indianapolis with a view to laying out a route for the local followers of the sport who will attend the convention. Mr. Fisher intends to periodically conduct such trips until the most desirable route is laid out.

"Motorcycle pathfinders are as much interested in their work as the automobile pathfinders who lay out the route for the Glidden tour," said Mr. Fisher. "There are several roads between Chicago and Indianapolis, one by way of South Bend and Kokomo, another touching La Porte, Plymouth and Kokomo, and still another via Valparaiso, cutting out both La Porte and South Bend, with variations via Rochester and Logansport." The campaign to secure the annual meet for Indianapolis is being led by the Indiana Motorcycle Club, which has already filed an application with President Ovington, of the F. A. M.

INDIANAPOLIS—FROM THE TRADE SIDE

HAVING completed the best year's business in their history, Indianapolis motorcycle dealers are preparing for a still greater increase during 1909. Practically all of them have secured larger quarters, or are preparing to do so, and are intending to give greater attention than previously to maintaining repair shops and keeping a complete line of extra parts. It is only in the last eighteen months that the motorcycle industry has attained a position to command much attention. Prior to a year or so ago there were only one or two agencies in the city and but little interest was taken in motorcycles. Dealers who sold bicycle gave their attention to bicycles first and motorcycles afterwards; automobile dealers having motorcycle agencies acted in a similar manner.

At the beginning of the 1908 season there were probably seventy-five motorcycles in Indianapolis. Now there are almost two hundred, and the number is increasing daily. Probably the organization of the Indiana Motorcycle Club last summer had as much good effect on the motorcycle trade as anything else. The club has rooms at 119 East Maryland street, and, for its short existence, has been very active. Two race meets have been held and the club has made several long runs. Officers are: Charles Wyatt, President; Harry Dipple, Vice-President; Charles Ball, Secretary; Harry Graff, Treasurer, and H. Bretney, Corresponding Secretary.

From a novelty, exclusively for pleasure, the motorcycle has come into general use for business purposes. Many of the large local concerns have purchased them for their collectors, and the Motor Cycle Messenger Company has built up a large business delivering messages and small parcels by motorcycles. Physicians all over the state are using the machine to some extent, but they are not utilized much for that purpose in this city.

The 1908 sales in Indianapolis represented about 300 motorcycles, the local dealers having considerable territory outside of the city. Advance orders have been much heavier than they were a year ago. The new models are just beginning to come in and are attracting much attention. After a successful experiment of one year the Indianapolis Police Department has ordered several Indians. These machines are to be used for running down viola-

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tors of the motor speed laws. This has been done for the last year, Officer A. C. Gibney covering more than 14,000 miles since last March and making about 350 arrests.

G. H. WESTING COMPANY.—For several years, since motorcycles first made their appearance in the city, the G. H. Westing Company has been identified with the trade. The company is located at 219-221 Massachusetts avenue, with a large repair shop fronting on East Ohio street. This year the company will represent the Indian exclusively, although it handled the Yale during the 1908 season. In addition to keeping several machines on hand, the company also carries from $3,000 to $5,000 worth of extra parts for all makes of motorcycles. Last season Mr. Westing inaugurated cross country runs, in which all riders were invited to participate. The first run was held in May, to Martinsville, about fifty riders participating. Later a run with about 100 riders was made to Anderson and return.

GEORGE C. DETCH WHEEL COMPANY.—Having been forced to take action by the rapid growth of the motorcycle trade, the George C. Detch Wheel Company has leased a building at 229 Massachusetts avenue, where it will have five times the floor space it now occupies a few doors west of this number. The company will move within a few weeks and will then add a complete repair shop for motorcycles. The company has the agency for the Reading Standard, which it had last season, and it will also represent the New Era this year.

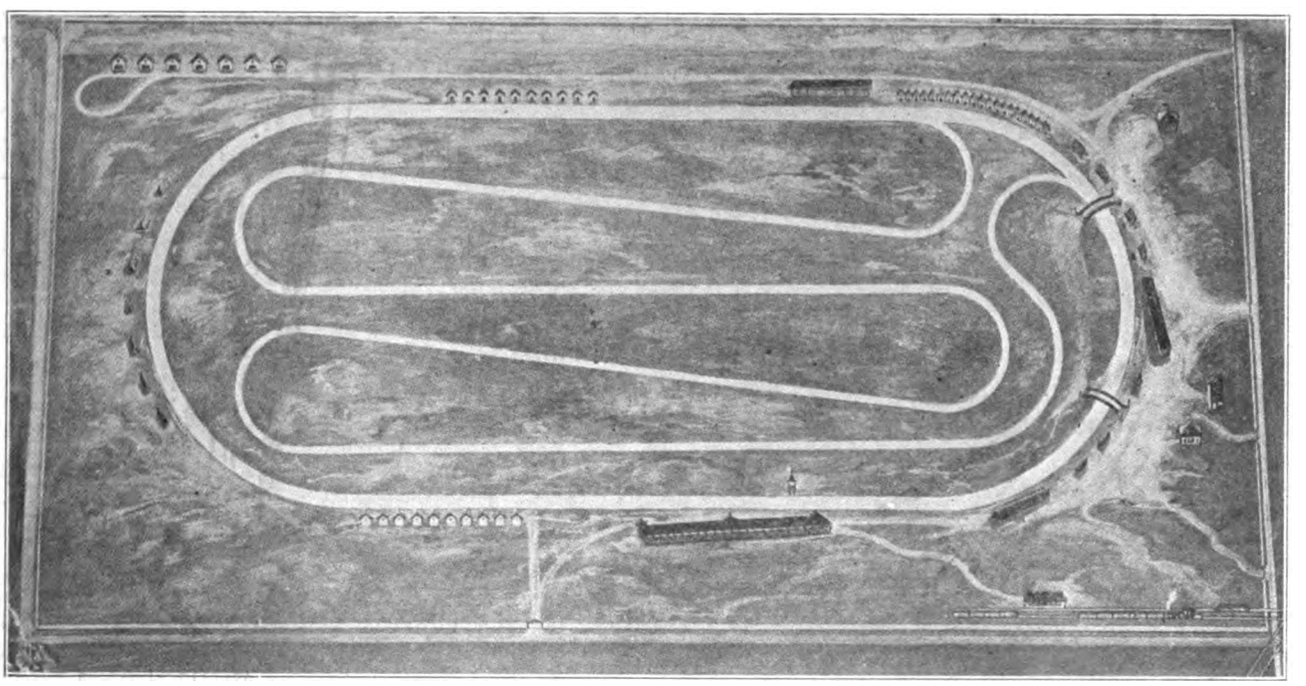
GUS HABICH.—Gus Habich has been selling motorcycles for two years, representing the Thor and Pierce, the latter being a new agency for 1909. On December 15th, after purchasing the business of the Federal Arms Company, Mr. Habich moved from his store at 121 West Washington street to 142 East Washington street, where he has a three story building and basement. The motorcycle department is in the charge of J. E. Merz, one of the pioneer and best riders in the state.. Habich has a complete repair and machine shop in connection with his agency and also keeps a large stock of extra parts.

HARRY L. DIPPLE.—Within the last few months Harry L. Dipple has built up a very satisfactory motorcycle business at 334 Massachusetts avenue, where he has been selling bicycles for some years. He has the agency for the Harley-Davidson and takes an active part in the affairs of the Indiana Motorcycle Club, of which he is vice-president.

FISHER AUTOMOBILE COMPANY.—While the Fisher Automobile Company was probably the pioneer automobile concern in the city, it was not until last year that it realized the importance of the motorcycle. At that time it took the agency for the Excelsior, and business was so satisfactory that the agency is to be continued this season. Recently the company bought a square of ground on North Capitol avenue and erected a four story, fireproof garage and sales agency, said to be the finest in the West. The company has a fully equipped repair shop, where it looks after its motorcycle repairs. An extensive stock of extra motorcycle parts is also carried.

Because of the intense interest that has been aroused in motorcycling, it is understood several new agencies will be established within a short time. The trade will also be given an impetus when the new Indianapolis Motor Speedway is completed, construction of which began on February 15. The Indianapolis Motor Speedway Company has been organized with $200,000 capital and has purchased ground one mile long and one-half mile wide where a five mile loop track is being built.

MOTORCYCLE enthusiasts of San Francisco are anxious to secure from the Park Commission the privilege of using the Stadium bicycle track for racing. W. G. Collins, a champion racing rider and prominent member of the motorcycle club, says that if the consent of the Park Commission can be secured, the club will make the finest saucer racing track in the United States. It will be possible to use the bicycle track on the stretches, but at the end it would be necessary to use fifteen or twenty feet of the embankment for "banking," so that the motorcycles can take the curbs at high speed. To do the work properly, according to Collins, an expense of $2,000 or $3,000 would be entailed, which would be met by the motorcycle club. The motorcycle club, if the necessary permission be granted, plans to hold racing meets on the track almost every Sunday or other holiday.



THE NEW TRACK IN INDIANAPOLIS: IT IS FIVE MILES LONG.

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BOSTON SHOW A BIG HIT

Conservative New Englanders Marvel Over Development in Construction of Self-Propelling Vehicles—Motorcycle Exhibit the Most Comprehensive Ever Shown Down East, Producing a Fine Impression

NEW ENGLAND motordom is jubilant. The show which was held in Mechanics' Building from March 6 to the 13th proved to be by far the most elaborate undertaking of its kind the Down Easterners had ever attempted. To declare merely that the exhibition was a success would be doing it an injustice. Under the efficient management of Chester I. Campbell and a corps of capable assistants, the automobile, the motorcycle and the accessory manufacturers were afforded a most inviting opportunity to display their products in an attractive manner. They made excellent use of it, and it cannot be gainsaid that they produced a big impression. It is quite true that the volume of business transacted failed to equal that of either the Chicago or the New York Show. But it must be remembered that New Englanders are a conservative and, withal, a thrifty people, not at all prone to accept the luxurious as a matter of fact; on the contrary, the average denizen of that part of these United States, even more than the proverbial Missourian, must be "shown." This attitude of the New Englanders, as may be expected, affects the motorcycling industry even more than the auto trade. The population of the upper tier of States has been slow to take to motorcycling, but the Hub show has brought these people to the point where they are interested, and that, in New England, is significant.

In Exhibition Hall, the forepart of Mechanics' Building, the many columns were made the foundation for large decorative arches, the bases enlarged and treated with green onyx, having capitals in ivorized plaster, from which sprung the decorative spans for the various aisles. All of the arches were modeled in high relief, with corner beads of raised plastic ornaments, escutcheons at crowns of arches, while the underside of each arch was studded with incandescents almost concealed in encircling rosettes, the lights themselves being in delicate colors.

This arrangement of intersecting arches produced necessarily a series of square ceilings, which were treated in sunbursts of consistent colorings with decorative electroliers pendant from the center. Some idea of the vastness of the adaptation of this scheme can be had from the knowledge that there were nearly 100 of these arches.

MECHANICS' BUILDING, WHERE THE SHOW WAS HELD.

Grand Hall was treated as far as possible to correspond in color scheme to Exhibition Hall, although no arches were constructed there. The great pilasters on either side of the stage were modeled in plaster in the form of a huge decorative panel, with green onyx and ivorized plaster base, above which high relief was a figure of the Genius of Progress holding aloft her torches of revolving electric lights of vari-colored hues. Immediately above were the figures "1909" studded with incandescents. The new proscenium arch curtain, especially designed, swept down and met this on either side. Fringes to the curtain,

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edges to panels and the entire portiere under the center of the curtain were formed by thousands of incandescents, providing a blaze of beauty. All approaches to the stage and railings were designed in onyx decoration. The balconies were treated in backgrounds of ivory, with festoons and borders of dark green foliage and incandescents with splashes of color in flower decorations.

There were sixteen makes of the little two-wheeler, hidden away in the basement, in which, however, they were permitted to occupy a sufficient space to allow of fair displays in each instance. The management had provided large signs surrounding the stairway to indicate the direction to the motorcycle exhibit, and those who missed it did so of their own accord. Business was never better than fair, and none of the manufacturers has anything about which to brag. It appears that the New England field has never been properly developed, and that the average individual knew remarkably little about the motorcycle. To this element, comprising the major part of the population, the motorcycle exhibit was a distinct revelation. Several thousand sons of conservative Yankees are now trying to decide whether they want motorcycles, or, rather, where to get the coin of the realm wherewith to buy. What they will do, remains to be seen. The trade is extremely hopeful as to New England's decision. Motorcyclists night brought forth the banner attendance at the various basement exhibits and served to dispel that feeling of doubt which had been manifest the early part of the week.

The various 1909 models having been fully described in the New York and Chicago numbers of MOTORCYCLE ILLUSTRATED, it were useless to go over the old ground. A brief reference to each exhibit, given in their alphabetical order, is all that will be required.

AMERICAN MOTOR COMPANY.—This concern was well represented by W. B. Marsh, R. A. Pickens, W. L. Drake, W. H. Baxter and A. White, the latter acting as demonstrator. Mr. Marsh reported business in excess of his Boston Show expectations. The M. M. exhibit was quite as comprehensive as that shown at New York and Chicago, and attracted more than a passing attention. Marsh was optimistic regarding New England as well as the balance of the country.

AURORA AUTOMATIC MACHINE COMPANY.—George W. Sherman, sales manager of the Thor, reported that his company had distributed four tons of catalogues between January 10 and March 1, and that a new lot was being printed to meet the enormous demand of an interested public. J. S. Tormey, a Thor salesman, assisted Sherman.

CONSOLIDATED MANUFACTURING COMPANY.—The indefatigible, ever-ready Coffman was always on the spot at the Yale booth. Coffman and F. C. Cornish showed themselves to be anything but pessimists, despite the some time frigid indifference of the crowd. The well-advertised Yale was being manufactured at a rate which taxed the capacity of the Toledo factory, so, if there were any worried faces among the motorcycling tradesmen, they were not those of Coffman and Cornish.

CROUCH MOTOR COMPANY.—S. Crouch and B. Bartley, demonstrator, "held down" this exhibit during the week. Crouch, modest and unassuming, appeared as though the quiet Bostonese atmosphere had made him very, very thoughtful. However, he dispensed good cheer right and left, predicting with the utmost confidence that 1909 would be the banner year for the self-propelling two-wheeler.

EXCELSIOR SUPPLY COMPANY.—Stanley T. Kellogg, Eastern representative, assisted by H. N. Kirk, sales manager, had charge of the Excelsior exhibit. Kellogg's smile brightened up the entire motorcycle section day and night. The modest, erstwhile racer added just a little to the breadth of that smile when questioned as to the likelihood of his speeding again.

HARLEY-DAVIDSON MOTOR COMPANY.—Arthur Davidson, he of the perennial brightness and optimism, and Jack Balsom, of the sales department, guarded the Harley-Davidson interests, presenting convincing arguments in favor of their machine. Arthur's hopefulness was contagious to a degree, and none engaged in conversation with this modest personification of progress and go-at-itiveness, who did not take away with him at least something of what is best in the motorcycling spirit.

HENDEE MANUFACTURING COMPANY.—Messrs. Corritt, McDowell, Holden and Swenson arranged and took care of the Indian exhibit previous to the advent of Messrs. Hendee and Hedstrom. Holden is the Indian's new Boston representative and he looks and talks like a real, live wire. The Indian people seemed to be satisfied with trade prospects in New England. They place much dependence upon Holden, who gives every promise of making good.

MERKEL-LIGHT MOTOR COMPANY.—The beautifully nickelled Merkel twin attracted many to the booth in charge of Edward Buffum and W. F. Mann. The latter, having succeeded in securing from a committee of the Bay State Legislature a number of important concessions for motorcyclists, was using this telling argument in behalf of the F. A. M., and together with President Ovington, who occupied an adjoining booth, made a number of converts to the Federation.

N. S. U. MOTOR COMPANY.—Much interest was manifested in the display of the N. S. U. Motorcycle, sometimes called the Mercedes of Motorcycles. Manager Albert N. Bartsch was in charge of the company's booth. In all twenty models are manufactured by the N. S. U. for 1909, including pleasure, racing and van types.

"One of the important features this year, and one which gets much interest, is our sidecar attachment," said Mr. Bartsch. "This attachment is of the rigid variety and very substantially built. It has been recognized both here and abroad as the only standard sidecar on the market today. It has an extra strong and perfectly designed frame and the seat is large, comfortable and luxuriously upholstered."

NEW ERA GAS ENGINE COMPANY.—The Junior Turpin was on hand to explain the advantages and, in the opinion of the Dayton concern, the points of superiority of the New Era. Turpin convinced his visitors that, though a youngster in the business, he knew the New Era from handlebar to rear tire.

OVINGTON MOTOR COMPANY.—The F. N. "Big Four," operated by an electric motor, was almost always the center of attraction for an interested group. Nor was the single-cylinder machine neglected, by any means. The aggressive Ovington simply overflowed with hearty Federation talk, while his logic apropos of the certainty of the motorcycle's future was quite unanswerable.

MINNEAPOLIS TWO-SPEED.—This machine, in charge of H. H. Wilcox, was exhibited for the first time in New England, it having made its advent at the Chicago Show. It was too early as yet, said Mr. Wilcox, to venture anything as to the future of the Minneapolis in the Down Eastern territory.

PIERCE CYCLE COMPANY.—W. A. Johnson, sales manager of the Pierce Company's motorcycle department, talked four cylinder in a most engaging fashion. The Pierce new departure has proven a happy venture, according to Mr. Johnson, who does not have the slightest apprehension on the score that the low priced automobile will be preferred to the high priced motorcycle.

READING STANDARD.—W. F. Remppis, he of the genial personality, was assisted by George C. Smith, of the sales department, in elucidating the good points of the R-S

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machine. The Reading Company representatives repeated their big New York and Chicago exhibits, showing, in addition to their regular line, models of their tricar delivery van and tandem.

RELIANCE MOTORCYCLE COMPANY.—W. J. Walker held forth in this booth. He was quite satisfied with New England prospects, having begun the week early with the sale of five machines Monday morning. The result was that Walker wore a smile of contentment and confidence throughout the week.

ROYAL MOTOR WORKS.—This company had no exhibit at the show, but was nevertheless represented in the Hub, at 243 Columbus avenue, by Sales Manager Eveleth V. Hill.

WALTON MOTOR COMPANY.—Eldridge N. Smith, secretary and treasurer, and Frank Engels, sales representative, discoursed to the interested on the merits of the Midget Bi-Car. Smith predicted the renaissance of the bicycle and, together with that development, the most successful season in the motorcycle industry in America.

TIRES AND OTHER ACCESSORIES.—Among the Accessory manufacturers represented at the Boston Show were the following: Batavia Rubber Company, Diamond Rubber Company, Empire Auto Tire Company, Fisk Rubber Company, Goodyear Tire and Rubber Company, The B. F. Goodrich Company, G & J Tire Company, Jones Speedometer Company, Leather Tire Goods Company, Lavelette & Company, Morgan & Wright, Parker Manufacturing Company, Pittsfield Spark Coil Company, J. H. Sager Company, Veeder Manufacturing Company, and the Warner Instrument Company.

ENTHUSIASTIC GATHERING OF NEW ENGLANDERS

PAUL REVERE HALL in the big Mechanics' Building, where the Boston Auto Show has always been held, was crowded to the doors with enthusiastic motorcyclists on Wednesday, March 10th. This was "Motorcycle Day," and it was so designated in the official announcements.

A conference of the visiting motorcycle enthusiasts had been called by the Commonwealth Motorcycle Club of Boston and the Providence Motorcycle Club, to discuss motorcycle subjects in general, and in particular the legislation affecting motorcyclists which is now pending before the Massachusetts State Legislature.

E. L. Buffington, President of the Providence Motorcycle Club and Vice-President of the Eastern District of the F. A. M., opened the meeting with a short talk on the purposes of the conference and a statement of the general situation. As is always the case, "Buff" had his audience with him from the start. His geniality is infectious and his logic clear.

The assembled motorcyclists were afforded a real treat in the form of an address, illustrated with lantern slides, by J. H. Manning, a prominent number of the Massachusetts Highway Commission. Mr. Manning exhibited some very interesting views of subjects of interest in connection with road building, and the motorcyclists applauded generously.

A clean cut man is the F. A. M. counsel, Mr. Francis Hurtubis, Jr. He was the next to address the meeting. He gave a clear and concise statement of the legislative situation in the Bay State. His words were enthusiastically received and the applause testified that the motorcyclists present appreciated the efforts of the F. A. M., through the ability of the speaker, to lessen the burden of the motorcyclists in Massachusetts.

Earle L. Ovington, President of the F. A. M., was next called upon. With his characteristic energy he spoke about what the F. A. M. had done to aid motorcyclists, what it was doing, and what it hoped to do. When Mr. Ovington brought up the subject of the open muffler nuisance and the appearance of many motorcyclists he hit some of the assembled enthusiasts pretty squarely, as was shown by their uneasiness when the subjects were mentioned. Mr. Ovington emphasized that the principal objection brought up by the average individual against the motorcycle was the noise the machine made and the disreputable appearance of the rider. The President of the F. A. M. made a strong plea to the assembled motorcyclists to keep their mufflers closed and dress in a manner befitting the dignity of themselves as gentlemen and in such a way as to cause the non-motorcyclist to respect, rather than to look down upon, the men who ride the power driven two-wheelers. Mr. Ovington concluded his speech with a stirring appeal to the motorcyclists who were not F. A. M. members to join the ranks and help those who were trying to help them. The applause accorded the speaker proved that the large majority of the assemblage approved of the sentiments expressed and were far from being offended at the frankness of the speaker.

R. G. Betts, ex-President of the F. A. M., expressed himself as being heartily in sympathy with the statements made by Mr. Ovington regarding the open muffler nuisance and the dress of the motorcyclist. While Mr. Betts was President he never let an opportunity slip by without condemning the man who bestrode a machine of the Gatling gun variety. The speaker also dwelt interestingly upon the early efforts of the F. A. M. to bring the cause of the motorcyclists favorably before the lawmakers. Mr. Betts always speaks with conviction and his remarks were received with much appreciation.

W. W. Scott, editor of the *New England Auto Journal,* and a prominent member of the Providence Motorcycle Club, made some pertinent remarks upon the relations which should exist between the motorcycle clubs of neighboring cities. He urged that the Providence Motorcycle Club and the Commonwealth Motorcycle Club to co-operate in the matter of meetings and runs. The assembled members of the two clubs seemed to be heartily in accord with the speaker.

A few words of praise for W. F. Mann, F. A. M. State Commissioner for Massachusetts. Mr. Mann is the new President of the Commonwealth Motorcycle Club, and is one of the real live wires of the F. A. M. His efforts in behalf of the motorcyclists of New England have been lauded before in our columns, but we are glad of this opportunity to again praise him for his untiring efforts. Mr. Mann acted as chairman of the conference and introduced each speaker with a few appropriate and well chosen words.

Verily the motorcyclists are coming out of their lethargy. Let them never allow an opportunity pass to get together for the common good. The old saying, "In union there is strength," applies as strongly to motorcyclists as to any other class of individuals. Wake up, ye motorcyclists! Join your local club; pledge your support to our national governing body, the F. A. M. Take what is your right and submit to no injustice.

BARRE, Vt.—Fred Morse writes that although motorcycling has not made any remarkable advances in this vicinity, there is a good opportunity for selling low priced machines capable of climbing stiff hills.

EUREKA, California, is soon to have a first class motoring club, the movement being already started. The leader is Jack Mercer, proprietor of the local garage. Membership will include motorcyclists and autoists.

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A. B. C. OF MOTORCYCLING

A Series of Elementary Hints for the Beginner

By ROLLAND C. LAURIE

Part II. Lubrication and Ignition

IN view of the many different types of engine used, and their various horsepower ratings, it is next to impossible to instruct the beginner exactly as to the quantity of oil to use. But first let me say a word as to *quality*—use the *best*, as cheap oil carbonizes quickly and often causes the engine to "seize," that is, the piston to get stuck in the cylinder, often scouring the walls and causing breakage in the connecting rod or elsewhere.

SPLASH SYSTEM USED.

No matter how the oil is caused to flow into the crank case, all motors are lubricated by the splash system, that is, when a certain level of lubricant is in the crank case, the flywheels, dipping therein, splash it on to the piston, cylinder walls and bearings and through these to the gears. The constituents of the best oil for air cooled engines make it so that it leaves a film which serves the purpose of reducing friction.

TOO LITTLE AND TOO MUCH OIL.

A new engine requires more oil than one that has been used and "run in" thoroughly. The rider soon becomes familiar with the pull of his engine and can tell whether it is receiving sufficient oil. Too much oil leads to smoke from the exhaust and is distinctly annoying to other road users. When too much oil has been given and the exhaust is very smoky, get off and drain some away from the tap at the bottom of the crank case. Sometimes this over-lubrication leads to the "sooting up" of the plug, and this should be washed in gasoline, care being taken not to disturb the adjustment of the spark plug points. If the plug has a very heavy deposit of soot, put a few drops of gasoline into the combustion head and revolve the engine a few turns with the spark off; then drain out the gasoline, after waiting for it to run into the crank chamber; close the tap and give a fresh charge of oil.

It may be mentioned excessive lubrication, such as described, gums up the valve seatings, causing a loss of compression, and, if frequently indulged in, causes or helps a sooty deposit to form on the head of the piston, which gets incandescent, owing to the heat of the explosions, and causes the engine to pre-ignite, that is, to fire before the right time—which leads to trouble.

THREE TYPES OF LUBRICATION.

One type of lubrication is very popular—the force feed, which is operated by the rider, who pumps into the engine a sufficient charge of oil every time it is needed. This hand pump is placed so that it is operated easily from the saddle, and it is so contrived as to fill itself from the oil tank supply. Another system is the drip feed, which is entirely automatic in action. The drip feed arrangement is of very simple construction, and is so made that it feeds a certain number of drops of oil to the crank case, this number being adjustable by means of a screw nipple. There is also an automatic oil pump used by some manufacturers, which is driven by the motor and delivers a certain quantity of oil according to the number of revolutions the motor is running.

RULES FOR THE NOVICE.

The novice should strictly obey the rules laid down by the manufacturer, and in particular regarding lubrication, as a fine new engine may be easily ruined by an insufficient oil supply. It is better to err by giving the engine *too much* oil than *too little*, as parts cost a lot and oil costs but little.

In very cold weather, or when a very thick oil is used, the piston sometimes gums in the cylinder. Let a few drops of gasoline drip into the combustion head through the little tap provided, or through the spark plug hole if no tap is fitted; then revolve the engine and it will unstick. But don't allow more than a few drops to drain in, as too much gasoline scours all the lubricating oil off the walls of the cylinder and unless this oil is replaced quickly the engine may "seize." In very severe cold I have been forced to warm the oil pump thoroughly with a rag dipped in hot water before the congealed thick oil would flow into the crank case, but happily this is a very rare occurrence.

TWO FORMS OF IGNITION.

There are two forms of ignition generally used in motorcycle construction, which have survived the test of time. These two ignitions are the battery and coil and the magneto. At present they share honors in the field, though it seems likely that the magneto will win the race in the end, as year by year it is growing more efficient and cheaper.

Battery Ignition.—Dry cells, usually three in number, are generally used here, although foreign practice adopts the accumulator. Both are good and have merits and demerits, but as dry cells are practically universal in battery ignition motorcycles here, we will deal with these.

BATTERY IGNITION.

The cells are connected in series and are attached by primary wires to the coil and to the make and break mechism or to the frame. Note carefully how these wires are connected on your machine—a good tip for the novice is to color the end of each wire and its terminal in different shades and then he cannot go wrong. As described in Part I, the cam on the engine shaft causes the two platinum points in the contact breaker to make and sharply break the electrical circuit. The electricity, which is intensified by the coil, has no other way to complete its circuit than by jumping in a spark across the plug points.

The "earthwire" to the frame or to a bolt on the crank case is for the purpose of utilizing the frame itself as a means of circuit. In some cases a "trembler" coil is used which has a trembler blade contained inside. In this case, as the coil "trembles" and produces a sharp series of sparks at the plug points, of course the commutator is simply a nonconducting ring with a piece of metal inserted at one point in its circumference, so that a roller may run thereon and make contact at one point.

DRY BATTERY SUGGESTIONS.

The capacity of the three dry cells should be twelve to fifteen amperes and at least one and one-half volts to each cell, respectively. When these cells run down they are useless for ignition purposes below four amperes. Be sure that the cases for the batteries are watertight and, if possible, damp proof, as if any water manages to get in in bad weather the cells very often short circuit and run down and thus becomes useless. A good "kink" is to get a piece of sheet rubber or a piece of an old tube and stick it above the posts of terminals, as sometimes bad jolting

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will cause these terminals to make contact with the metal case, which also leads to short circuiting.

Practically speaking, a good set of three cells will last, with careful usage, about 1,000 miles, but remember one point about "new wine in old bottles"—don't add a fresh cell to two old ones or to one strong and one weak, as the weak cell will "pull the life" out of the strong ones. If you ever get stalled by the battery giving out on a long run, here is something to remember which may get you home: Let the cells rest for about half an hour, preferably in a warm place, adjust the spark plug points a wee bit closer and get them good and bright and then see if "she fires." You will probably succeed, for a rest allows a cell to regain a little of its lost vitality and the stunt of adjusting the spark plug points closer is that a weak spark can jump the lessened gap much more easily.

Another tip for testing cells is well to remember and that is not to apply the ammeter for testing when the cells are frozen or when the motorcycle has been kept in a very cold place. The reason for this is that a cold cell will lie badly and will underrate its true capacity, but if tested in a normally warm temperature or after it has been working a bit it will give off a true reading as to its capacity.

WIRING OF COIL AND BATTERY.

Now just a few words as to the wiring or connecting up of the coil and battery system. On each cell you will notice two posts, of carbon and zinc, respectively. Connect the series now with low tension, that is, primary insulated wire, binding this wire from one zinc to the carbon post of the next cell and so on. I will take now, as an example a well known coil used on many battery motorcycles.

Marked on a lead you will find BAT; connect this to the carbon post on the connected series of dry cells. Another post on the coil is marked GRO; this is generally called the ground or earth wire and runs to the zinc connection on the battery series. From this zinc post attach another wire, which should be fixed either to the frame or preferably to the engine as near the contact box as possible. Now another primary wire has to be fixed to the post on the coil marked COM; this wire has to run to the platinum screw of the contact breaker. Finally, we have the large secondary wire, which runs from the coil to the spark plug. I have purposely taken the coil and wiring of a four lead coil here, as the wiring is somewhat harder to grasp than on a three lead coil. If, however, your coil is of the three lead type, attach as follows: BAT on coil runs to battery carbons; COM to contact breaker screw; secondary wire, as before, from the coil to the spark plug, and a wire to "earth" or "ground" from the zinc terminal of battery to the frame. Scrape and clean the latter to make sure of a perfect connection.

POINTS TO REMEMBER.

Now a few words of advice. Keep the wiring in good condition; do not allow it to make any sharp turns, as this leads to breakage. Use the very best insulated wire, as it costs but little more than second grade and gives far better results. Do not stretch the wires tight in fixing; leave about six inches at least to spare, as you may have to shorten a wire occasionally if it happens to break at the binding posts. Use good terminal clips to fix your wires; do not simply twist them round the posts, as this spells trouble for the future. A good terminal clip with the wire properly fixed "stays there" and is a great time saver in the long run. See that the batteries do not either touch each other or the case as stated before. Keep the contacts bright and clean and the same as to the platinum contacts at the contact breaker.

Having no further space in this issue I will have to leave the question of magnetos for Part III. Until our next session, therefore, brethren, "read, mark, learn and inwardly digest" the points contained herein!"

France Produces a Three-Cycle Engine

FRANCE has furnished us with the latest surprise in engine construction, namely, a three-cycle type. This is about to be manufactured by MM. Korwin and Rebikoff, two well known designers in foreign factories. The claim for this novel engine is that it completely eliminates the great disadvantage of the two-cycle type, namely, imperfect scavenging of the exhaust gases. It gives also an explosion at every other stroke which should spell great efficacy.

To roughly understand the construction first imagine a single cylinder of the ordinary type, with the addition of an auxiliary piston in the head, which is so arranged as to be immobile at the time of the explosion. The auxiliary piston has its head turned downwards just the same as on the French Gobron engine. The explosion takes place and the main piston descends to the end of its stroke, while the auxiliary one is so arranged to remain stationary in the head of the cylinder.

As the main piston is ending its stroke the auxiliary one is caused to travel downwards after it at a speed of one and a half times faster. There is an open exhaust port at the end of the stroke which is uncovered on the descent of the main piston. The consequence of the descent of the auxiliary piston is of course a very effective and rapid driving out of the spent gas, for the two pistons almost touch in the center of this opening. An automatic intake valve is provided in the cylinder head, with the result that on the downward stroke of the auxiliary piston, as just described, an intake of gas is caused to enter behind it; that is, an exhaust and intake stroke with one action.

Now on the up stroke, again the auxiliary piston travels faster than the main one. The automatic valve closes, of course, but at the same time an automatic valve in the head of the auxiliary piston opens under the pressure of charge above it and admits the gas into the space between the two pistons. The auxiliary piston, which moves faster than the main one, reaches the top of its stroke long before the main piston, which follows and compresses the gas admitted. Thus on a completion of the return stroke a charge of gas is actually admitted and compressed. The result is the same as on the two-stroke motor, namely, an explosion for every revolution of the crank pin.

But the difference lies here: As is known, in a two-stroke engine the fresh gas is always mixed with a large proportion of the exhaust gas which has not been properly scavenged. There is no necessity for the auxiliary piston to be fitted with rings, as it is found that a considerable amount of play can be left, for the gases expand and offer little resistance when the exhaust stroke comes into action, and the speed of this auxiliary piston ensures the drawing in of a fresh charge.

The mechanical realization of the three-cycle principle must be ignored for the present in this description until further particulars are obtainable. In the working model exhibited by the inventors the idea is roughly shown by a vertical cylinder with the main piston connected up to the crankshaft in the usual way, and the auxiliary piston with its long connecting rod linked to the crank pin by a series of levers. In the real engine to be placed on the market the auxiliary rod passes through a vertical guide in the cylinder head and is connected to the outside levers from the crank shaft by vertical rods.

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IN NEW ENGLAND

IT is true that the motorcycle has not accomplished wonders in the New England states. Conditions there, however, are such that the self-propelling two-wheeler must in the very nature of things attain to great popularity. As a matter of fact, the motorcycle is "coming" Way Down East, if only because the roads are such as to insure marvellous development during the next five years. This despite the fact that New Englanders are the most critical people in the United States. For they are pleased, immensely so, with the 1909 models. The reception the people of Boston and surrounding places accorded the motorcycle during the show last week was evidence enough. New England is in the game for good.

Existing conditions are from good to indifferent. Reports secured at random from a score of cities and towns in Massachusetts and Connecticut disclose a promising state of affairs. In brief, the situation in these places is as follows:

SALEM, Mass.—There are not more than twenty-five riders here, writes Charles F. Curwen. A club was started last spring. Two meetings were held. The club elected the following officers: President, Dr. J. O. Sartwell; Treasurer, F. W. Price; Secretary, E. W. Curwen; Captain, Benjamin Hersey, and Color Bearer, G. Rehal. As Beverly has started a club the Salem organization is not likely to do much this year.

There are two dealers here, Benjamin Hersey, who is agent for the Indian, and John M. Wilson, who has just taken the M. M. agency. Salesmen are advised to take a trip through this way and see what they can do toward awakening riders, as there should be a great many more riders than there are. Roads through Beverly Farms, Manchester-by-the-Sea, Magnolia and Gloucester, Wenham, Hamilton, Ipswich to Newburyport, also through Wakefield, Reading, Andover and to Lawrence, to Lowell, or to Stoneham, Winchester, Belmont and Waltham, are fine. At Lynn, five miles away, the rider strikes the Metropolitan Boulevard, which connects with the various parkways of Greater Boston.

MARLBOROUGH, Mass.—C. Lester Bartley sends information to the effect that there were fifteen riders in town last summer, and that the number will in all probability be materially increased this season. Among the most enthusiastic riders, in addition to Bartley, are C. I. Stevens, William Leonard, John Nutt, Charles Rice, George Berry, E. P. Longley, Bert Allen, Addie Richardson, Clifford Clark, Walter Gield and Morgan Curtiss. Agents are C. I. Stevens, who handles the Reading; John Nutt, who has the M. M. agency; Leonard & Clark, who are the Indian representatives, and the Marlboro Rubber Company, which handled the Yale last year, and which is seeking to secure the Pierce agency.

BRIDGEPORT, Conn.—Charles A. Ewords, E. F. Phelps and Everett G. Bishop report that there are about 150 motorcycles in Bridgeport, and the prospects are that this coming year there will be a great many more. There is no club here at the present time, although there is some talk of starting one this spring.

The agents here are William Stieff, who handles the Indian and Thor and is thinking of taking on the Pierce; Lew Bassett handles the R-S and is contemplating the Harley-Davidson; F. M. Neal, of 1048 East Main street, handles the M-M and is also an active rider, as he has a 6-h. twin that is the fastest thing on wheels in the city; James H. Tyre, of 1247 Howard avenue, is agent for the Merkel. Homer Fox and Emery Phelps, of 2926 Fairfield avenue, intend taking on the Curtiss this season. Among the most active riders, beside those named above, are the following: Mr. George Hall, better known to the boys as "Pop" Hall; Dr. Blackman, Ed Langdon, Harry Penfield, Thomas Buchanan, H. Bull, George French, W. Sherwood, Dr. Hawley, Roderick McNeil, W. B. King and F. M. Neal.

PROVIDENCE, R. I.—Little Rhody shows up wonderfully well among the New England states. With seven hundred riders within its comparatively narrow limits this diminutive commonwealth boasts of more motorcycling enthusiasts per square inch than is possible in any other state in the Union. The leading clubs are the Providence and the Rhode Island. The officers of the former were published in our last issue. Those of the other club are as follows: President, William A. Suddard; Vice-President, William H. Parker; Secretary and Treasurer, W. L. Medhurst; Captain, W. H. Earnshaw; First Lieutenant, H. Wilkinson; Second Lieutenant, R. H. Beideker. H. G. Baxter, who sends the Rhode Island report, is the M. M. agent in Providence, and writes not only that he is doing a fine business, but also that interest in the F. A. M. is deep set and substantial in Providence and elsewhere throughout the state.

NEW BEDFORD, Mass.—Frank Otis Eldridge is authority for the statement that there are about one hundred riders here. This is also the home of Miss Effie Woodsome, one of the Indian fraternity, or, rather, sorority. The rivalry between the riders of the various makes of machines is intense, and, although there is no club here at present, the coming season promises healthy addition to last year's quota of motorcyclists. First class agency prospects here.

FALL RIVER, Mass.—No club here as yet, the store of J. W. Newton, agent for the Merkel, Light and Crouch, serving as headquarters for the two score and ten residents of Fall River who own machines. Mr. Newton writes that he expects to see the present number of motorcyclists easily doubled before the close of this season. He reports a record breaking number of sales, with many more in prospect when Old Sol "gets busy."

HOLYOKE, Mass.—B. U. Potter, who handles the Harley-Davidson, and C. E. Walker & Company, Indian representative, are the local agents. Potter reports twenty-five local riders, and expresses great hope for the future. He has invented an automatic self-starting stand which he declares to be a "corker." The stand will be described in a subsequent issue of this paper.

MEDFORD, Mass.—George N. Mason, a seventy-five year old enthusiast, is the pioneer rider in this place, in which motorcycling rapidly attained popularity. Mr. Mason, in order to interest the younger element still further, has placed the latest bound volume of MOTOCYCLE ILLUSTRATED in the Medford Public Library.

PITTSFIELD, Mass.—This place, according to J. Stillman Taylor, boasts of fifty riders, a very fair proportion for a town of 25,000. J. Thomas handles the Indian, A. T. Mason the Curtiss, Alling Rubber Company

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the Yale, and P. E. Lowe the Pierce. A series of hill climbs is contemplated.

GROTON, Mass.—D. Dana's advices are that although there are only two resident riders in Groton, many of the students of the Groton school are motorcyclists. This place seems to offer a fair field for the establishment of an agency on a small scale.

BEVERLY, Mass.—The local organization will hold its business meeting April 5 at the Hotel Trafton. After the business has been done, and the hill climbing contest details arranged, the first club banquet will be enjoyed.

TORRINGTON, Conn.—One agency, the Wigwam, managed by Stewart & Belcher, who report a lively interest and a number of sales. Twenty-five or thirty riders, but no club.

WILLIMANTIC, Conn.—A lively little place, from a motorcycling point of view, is the opinion of De Witt C. Lathrop, an M. M. rider. No club yet, but one in early prospect.

HARTFORD, Conn.—An active club here, writes George A. Snow. Its membership is upward of fifty and a big increase in the list this season is looked forward to. The local agents are George S. Maslen, Indian; Alexander Smith, Pierce; George Richman, Marsh-Metz; Mr. Morteson, Reading Standard.

CAMBRIDGE, Mass.—Franklin T. Clark suggests the establishment of an agency here, principally for the purpose of loaning machines to Harvard students. He writes that such an establishment would be popular among the undergraduates, and that they would patronize it well.

NEW HAVEN, Conn.—Howard Logan, of Yale University, is one of several students who are planning summer motorcycle trips to Cleveland, Chicago and Denver. University motorcyclists are affiliated with the Yale Auto Club, though an independent organization is in prospect.

BRISTOL, Conn.—Two agents, Reading Standard and Pierce. No club, and comparatively few riders. Among them H. E. Daniels and J. McGar.

MASSACHUSETTS WILL MAKE CONCESSIONS

NOW that the F. A. M., through State Commissioner W. F. Mann, has proven to the Massachusetts members of the Federation that it has "done something," it is to be hoped that the Bay State riders will reciprocate. Mr. Mann, though not as energetically supported as he should have been, has succeeded in making an impression upon the committee on roads and bridges of the Massachusetts Legislature, and it is safe to say that the future attitude of the Bay State solons, towards the motorcyclists, will be a quite different one than in the past.

The hearing recently gave Mr. Mann the opportunity he had been awaiting for some time. Seldom has the cause of the motorcycle rider been pleaded more strenuously. The committee, at first indifferent, soon became interested. Although the lawmakers refused to report a separate motorcycle bill, or to recommend any reduction in the penalties, as now provided for, they expressed a willingness to suggest that the license fee be made $2 the first year only, with renewal privileges to cost only fifty cents per annum. It was also agreed that the bill be so drawn as to omit the four-inch number provision and the license carrying requirements, substituting therefor a section requiring each rider to carry simply a metal seal two inches in diameter.

W. F. MANN

Contributions to meet expenses of the Massachusetts campaign, have been received as follows:

Irving H. Smith, Leominster, $1; Henry G. Chamberlain, Chelsea, $1; E. J. David, Medford, $1; J. J. Fecitt, Dorchester, $1; E. J. McNeil, Jr., Cambridge, 50 cents.

In response to Mr. Mann's appeal, scores of commendatory letters were received. There was one exception, however. It speaks or, rather, it howls for itself. Here it is:

MR. W. F. MANN. February 2, 1909.

Dear Sir: In reply to your letter of January the twenty-eighth, I will say that I will not join the F. A. M. under any consideration. If I believed in it I would cheerfully pay double the subscription fee. In the first place I believe the motorcycle to be fully as dangerous as an auto.

As regards your objection to disfiguring your machine with "hideous figures," your statement is ridiculous, to say the least. You also state that the motorcycle does not do the slightest injury to the roads. This is not so. I would further state that we (in the town of Milton) have "traps" and are rather proud of the fact. In other words we choose to have a law abiding town.

Any man who objects to "traps" implies at once that he is desirous of breaking the law. To sum up, I would say that while I am a motorcyclist and enjoy the sport, I believe thoroughly in the Massachusetts laws; and at the present state of affairs I do not believe that the laws can be too stringent or the fines too great.

Yours truly,

(Writer's Signature)

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WINTER RIDING IN OLD ENGLAND

How They Work It Over the Pond—The Muffler Question, Endurance Trials and Other Notes of Interest

By B. H. DAVIES

WINTER WEATHER.—Our chief interest for some months has been the weatherproofing of our summer mounts. We have so far succeeded that the only thing now left to seriously bother us is the belt. We fit big shields about 20 inches wide, running down the steering head and front down tube of the frame, consisting of light leather on a metal framework, and they help to keep us warm and dry, and to ward off clobs of mushy roadstuff from the mechanism; a six-inch rear mudguard with rolled edges catches most of the flying muck astern, a mackintosh bag allows the magneto to spark away merrily. But nothing will induce the belt to grip when melted snow or a bucketful of surface water sop it and its pulleys, so there is likely to be something of a return to the chain drive or a popularization of the shaft. I have done a lot of winter work this year, and have had no stops at all except to tinker at my belts or mend tires. I am particularly proud of having dodged the sideslip demon, three devices all having turned out trumps. One is the plain rubber studded cover, first introduced to me on Goodrich tires; another is a combined rubber and steel nonskid, which I fancy has yet to wander across the water; and the third is a plain rubber tread, with extra deep circumferential grooves. All these are extra.

MOTORCYCLE RACING CLUB.—The new secretary of Brooklands track, Major Lindsay Lloyd, has not too high a collar to see a motorbicycle, and as a consequence our speed merchants are promised great times in '09. We have regularly got the run of the track, and we are to have four events during the two days' racing at Easter. During the summer members of the Brooklands Racing Motorcyclists Club are to have the track reserved for practice one evening a week, and the seven dollar contribution includes all the ordinary privileges of track membership. The only thing we are sick about is that the residents have made a pother about twenty-four hour races, and so our long distance men can't be given the chance of making the toughest record of all—sixty miles an hour for twenty-four consecutive hours. Several of them are ready to try it, but we would not back any man to sit a bucking motorcycle at that speed for a day and a night.

MUFFLER QUESTION.—We are in the midst of a perfectly furious controversy on the question whether or not a motorcycle should possess a really quiet muffler. From a manufacturer's point of view it is quite simple to make a practically noiseless machine at moderate speeds, without sacrificing high efficiency at high speeds. Our trade has never turned out such machines as standard; they are fitting less efficient mufflers today than they have ever done in the past, and in addition these nominal mufflers usually have a cutout, which permits the exhaust to pass into the air, practically unbaffled, at the rider's will. Hence some of us argue that public opinion inside the sport is dead against the truly silent machine, and we explain that by our experiments with specially efficient mufflers. They are a good deal more tiresome to drive in a city traffic than a dead silent car like the Rolls-Royce, and that is saying a lot. Pedestrians and horse drivers dodge a silent car because it's big enough to discern by the eye, without aid from the ear; but a motorcycle is too small to attract much visual notice, and if it does not make a slightly truculent noise, it is left to take its chance in traffic. In fact, a silent motorcycle is twice as dangerous to its owner and to the public as a noisy one. In the face of this our governing body is trying to force efficient mufflers upon us by penalizing us heavily in competitions unless our exhausts are almost inaudible. So there are wigs on the green, and I should not be surprised if some fine day the whole of the entrants for a trial appear at the post minus any silencers at all, by way of protest. Perhaps evolution will take the form of providing the motorcycle with a distinctive and musical alarm, after which none of us will mind fitting the best muffler that can be invented. At present a silent motorcycle with any sort of horn or bell is mistaken for a bicycle, and compelled to slow down accordingly.

AMERICANS INVITED.—We are very anxious to see a team of your path racing cracks come over, and if a bunch of them brought over their record breakers for the two meetings of July 31st and August 2d, they would get a royal welcome, and see some tremendous sport. If they came to a later meeting, they might combine Brooklands with our Tourist Trophy race in the Isle of Man, the exact date of which is yet to be fixed. In this road event there will be two classes—one for single cylinders with a cubical capacity not exceeding 500 c. c., and one for twins not exceeding 1,000 c. c., no petrol limit, and pedalling gear barred. This race is run over a very tricky course, and the jockey is of more importance than the machine, though the latter should be of the flexible and rapidly accelerating type, rather than of that breed which requires a mile flat straight in which to work up steam. Have you got a sporting amateur who'll come over this fall and give us a flutter? He'll have the time of his life.

ENDURANCE TRIALS.—We are gradually converting our endurance trials more and more into purely amateur events. Originally these trials had to be professional, because no man living could coax one of our prehistoric rotters through a 1,000 mile trial except the man who made it, and he only made good if he had a complete kit of replacements at every stopping place. Gradually machines got better, and each year an increasing number of amateurs tried their luck, until last year almost as many amateurs as pros. got perfect scores. Now, the days are almost in sight when the entry will be exclusively amateur, a development that will save the trade money and double the advertisement of a gold medal, for the incredulous public likes to know a machine can come out on top of the crowd even when an ordinary duffer of a customer handles its throttle. We find two things essential to a big amateur entry; one is that the roads selected shall be interesting, and not spell eternally threading thick city traffic or flat, tedious country lanes; the other is that there shall be a fixed headquarters, so that our sporting dudes can find a clean set of togs waiting for them each evening when they finish the day's run. This year we start from London, and finish there; but the runs of the intervening four days are all to begin and end at Shrewsbury on the wheel and spoke system. We expect a big amateur entry.

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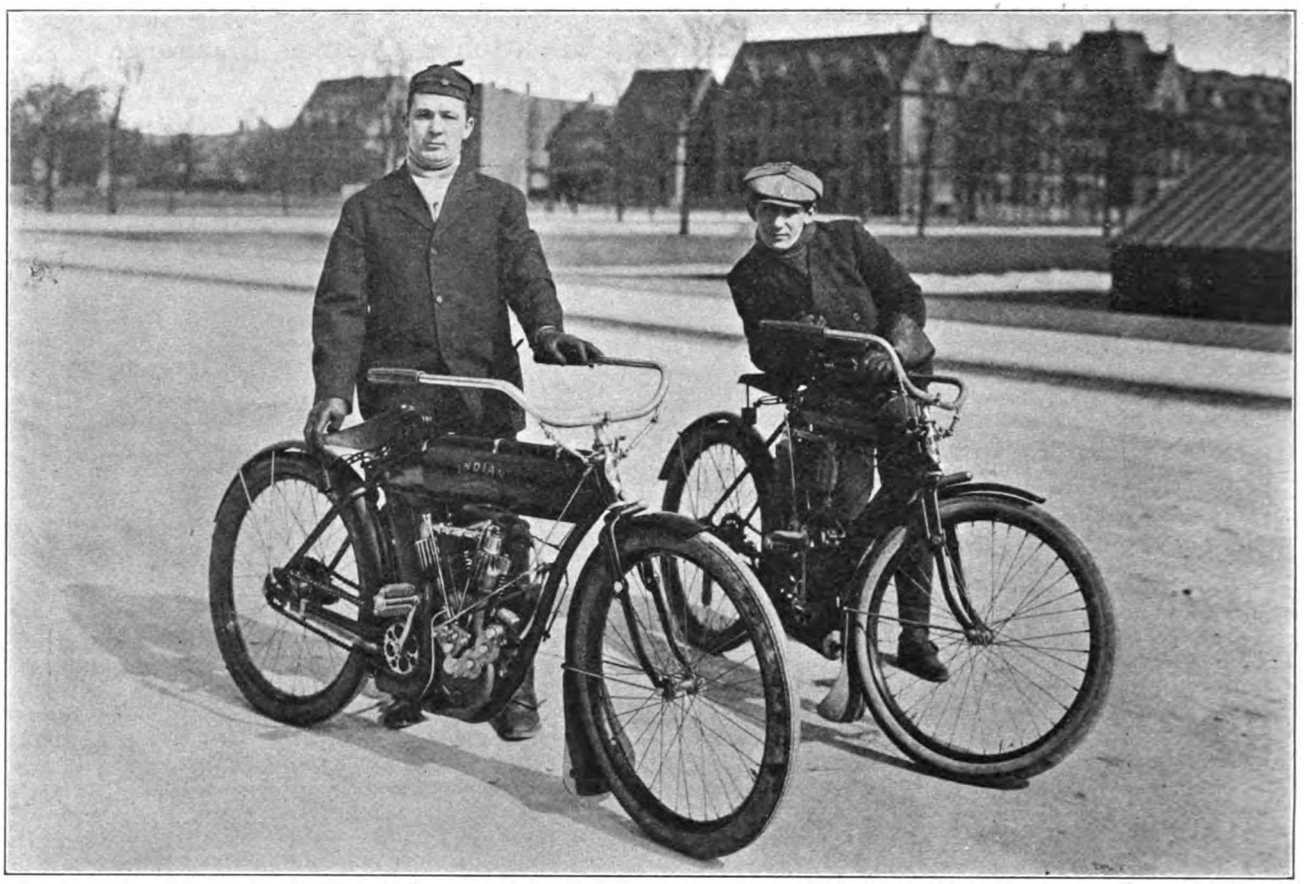
BLAZING THE WESTERN TRAIL



FISHER AND ALOFSIN, CHICAGO-INDIANAPOLIS PATHFINDERS.

THESE are busy days in the Western District, F. A. M., where active preparations have begun looking towards holding the 1909 F. A. M. convention at Indianapolis, with endurance runs, economy test, tours, etc. At a meeting of the Indiana Motorcycle Club, held at Indianapolis on March 5th, I. F. Alofsin, Secretary of the Western District, was present. Dates and arrangements were discussed and a tentative agreement was reached that, if the F. A. M. officials will make the award to Indianapolis, the convention will be held some time between July 15 and July 25. President Wyatt and Director Willis announce that approximately $1,500 had been pledged to support the convention. This will be spent in the entertainment of the visiting motorcyclists, who are expected to flock to the Hoosier metropolis to attend the convention.

An announcement was made that the endurance contest will probably be between Buffalo and Indianapolis, and that three days will be consumed by the trip. The economy test, which has always been a source of criticism and trouble, will be run over the Motordome speedway, where all of the contestants will be within sight of the officials at all times, and, in addition, a riding escort will be sent with each contestant, so that no adjustment can be made after the start. The only thing lacking now is the award of the convention, and the Indianapolis folks are sparing no effort to push the thing along.

John T. Fisher and I. F. Alofsin, both mounted on Indians, blazed four trails between Chicago and Indianapolis last week and found the roads in exceptionally good condition. The routes which they explored will be used in organized tours from the western territory to the national convention, parties being already arranged for from Chicago, Milwaukee, and Minneapolis. It is probable that the Milwaukee and Minneapolis contingents will join forces with the Chicago brigade and continue Indianapoliswards together. Enthusiasm is high all through the Western District, and no effort will be spared to make the 1909 meet an event which will not be soon forgotten by motorcycle riders.

Fisher, mounted on a twin Indian, and Alofsin on a 3½ single cylinder machine of the same persuasion, spent two days on the roads between Chicago and Indianapolis. The pair stuck together as far as Valparaiso, going there via Hobart. At Valparaiso the two Indians split up, Fisher moving in a southerly direction toward Plymouth, via Wanatah, Hamlet. With the exception of some marshland, which is apt to make sticky going after hard rains, this route was found very practicable for motorcycle riding. From Plymouth Fisher worked north toward South Bend and along the 1908 endurance run course towards Valparaiso, via New Carlisle, Michigan City and Westville. From Valparaiso Fisher travelled to Crown Point and back to Chicago via Hammond and South Chicago.

While Fisher was exploring these two roads Alofsin went from Valparaiso to Laporte, and from there sought the short cut to Plymouth, via Walkerton. This made a very pleasant ride and served to cut about thirty miles off from the old routes

Arriving at Indianapolis, Alofsin was the guest of the Indiana Motorcycle Club, at which convention features were freely discussed. Alofsin, who had the charge of the New York-Chicago motorcycle tour in 1908, promised to exert his influence to start the national tour of 1909 from Indianapolis, and he will co-operate freely in the arrangements leading up to the convention.

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Los Angeles Track Opened

LOS ANGELES, Cal.—The three-lap track here was formally opened yesterday with a race meet. On Sunday, February 28th, the circle was first thrown open for practice spins and some very fast time was shown. The star performer was Arthur Mitchell, who covered a mile in 47 seconds, while several other riders rode a mile in fifty-two seconds.

The track was recently completed, there having been some delay on account of the rain, and the belated shipment of lumber required for surfacing the track.

This is the first track built exclusively for motorcycle racing, though there will be others put up during the present year. There is a demand for tracks where miles can be reeled off at seventy to a hundred an hour. It will be possible, it is claimed, to make a mile in forty seconds on the new track, which will be known as the Coliseum.

The banking much of the way around is at 45 degrees, a 100 per cent. grade. This banking is too steep for bicycle riding.

Jake de Rosier, George Kreamer, Ray Duer, Will Furman, Paul Derkum, Arthur Mitchell, Newark, N. J.; Samuelson, of Salt Lake City, Eddie Lingenfelder, of Chicago, who divides with De Rosier the premier position in the East; Freddie Huyck, of Chicago, and M. J. Graves and Seymore, the Los Angeles amateurs; Herman Kohl, of Atlanta; Gus Lawson and Ben Breesee are among the fast riders who will break records on the Los Angeles track this year.

Clifton Track Opens April 11

THE famous saucer at Clifton, New Jersey, which was inaugurated on July 5th last year, will be re-opened for the coming season on Sunday afternoon, April 11th. A program of motorcycle and cycle events will be run off. This year the track will be under the management of Clarence Finkle, one of its owners. The company has bought three N. S. U. motorcycles and have engaged Arthur Mitchell, Carl Ruden and Bob Schultz as pacemakers. The track is of board, six laps to the mile, highly banked and affords exciting sport, the men being in close view all the way. It is also a bit dangerous, and that adds zest to the doings. Last season these races drew large numbers of spectators every Sunday afternoon.

Three Events at Daytona

THE annual motor racing carnival, under the auspices of the Florida East Coast Automobile Association, will be held on Daytona Beach March 23rd to 26th. The program includes automobile, and for the first time this year, motorcycle and bicycle races. The whole is in charge of W. J. Morgan, Thoroughfare Building, Fifty-eighth street and Broadway, New York City. The motorcycle events include a 100 mile Marathon two classes, 30½ and 61 inch displacement, a one hour motorcycle race in two classes of 30½ and 61 inch displacement; also a series of motorcycle trials. Only the Indian and the N. S. U. will be represented.

The Great English Event

THE Auto Union Committee, of Great Britain, has fixed the dates for the Annual Reliability Trial for July 5th to 10th. The total distance is 990 miles, and the route extends over a large part of England and into Wales. The distances to be travelled each day have been arranged as follows: First day, 160 miles; second day, 165 miles; third day, 174 miles; fourth day, 164 miles; fifth day, 172 miles, and the sixth day, 154 miles.

On the route there will be two hill climbing contests. One of these hills, located in Wales, is three miles long and has a rise of 1,200 feet, an average of 1 in 13. This, however, by no means represents the testing powers of the hill, for near the summit there are gradients running 1 in 10, 1 in 7 and 1 in 5. Besides that, the road surface is very bad. The other hill, really two hills in one, is five and a half miles long with a total rise of 1,150 feet and with gradients varying from 1 in 17 to 1 in 8. This event is the great English motorcycle affair of the year, and riders gather from all parts of the country to take part in it.

In the 1908 trial, Theodore K. Hastings, a well known New York rider, competed and won a diamond medal for a perfect score. He was also awarded a special prize for "best appearance." In this English trial, amateurs and professionals may compete together. The amateurs receive medals and the professionals cash. It was for his appearance in this trial that Hastings was declared a professional by the Competitions Committee of the Federation of American Motorcyclists.

Six-Hour Record Broken

COLVER'S six hour world's record, only a few weeks old, has just been reduced to smithereens by H. Martin, who has bettered the former's figures by over ten miles. Martin, in a quarter day, covered 278 miles and 586 yards, as against Colver's 268 miles, 285 yards. Though severely hampered by cramps in the back, the plucky English rider stuck to his machine, a 7-h., twin cylinder Matchless-J. A. P., until a new world's record had been safely stowed away.

The day was fine, there was little or no wind; in fact, the conditions were ideal. At fifty-seven miles Martin had improved on Colver's time, and continued to do so till the end. His time for the fifty-seven miles was 1 hour, 5 minutes, 9 1-5 seconds; previous record, 1 hour, 7 minutes, 53 3-5 seconds. His time for the 100 miles was 1 hour, 56 minutes, 17 seconds; previous record, 2 hours, 2 minutes, 19 seconds. He covered 200 miles in 4 hours, 5 minutes 54 2-5 seconds, and at the end of the six hours, though cramped and tired, he decided to accomplish 300 miles, which he did in 6 hours, 33 minutes, 55 seconds, also a world's record.

MARTIN, SIX-HOUR RECORD HOLDER.

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CLUB NEWS

CONDITIONS in a motorcycle way are beginning to shape themselves for a long and successful season in Brockton, Mass. There is a plan under way to organize a motorcycle club. The season, however, does not usually open here until Patriot's Day, which comes on April 19th.

There is now afoot a plan to hold on that day the biggest motorcycle run ever held in America. It is quite possible, and even probable, that 250 motorcyclists will participate, as a number of organized clubs and clubs about to be organized are to take part.

It is known that the Massachusetts Club, of Boston, will head the run with no less than seventy-five machines, while every effort is being made to induce the Commonwealth Motorcycle Club, of Boston, to join its forces to the number.

The veteran rider, Jack Fecit, who is captain of the Massachusetts Club, believes it possible to get these two clubs together on this date with at least 125 enthusiastic motorcyclists. This number will be augmented by Estes of Waltham, with a dozen or fifteen men; Hoyland Smith, of New Bedford, with at least fifteen crack riders, while the Brockton contingent, headed by W. T. Marsh, will swell the total by at least fifteen more, followed by Chapman, of Middleboro, and a half dozen or more of his followers, together with Hoyt, of Whitman, and a good representation from that vicinity; Libby, of Lynn, with his usual followers, and individual riders from Fall River, South Framingham, Marlboro, Lowell and other New England cities.

A banquet will be held at Boston after the run. There is little doubt about this monster run proving a complete success, if only because of the great interest already shown.

FORTY members of the Detroit Motorcycle Club recently got together in their quarters in Prismatic Hall for the purpose of "pulling off" a good time which had been postponed from the week before on account of the automobile show.

The evening's doings were inaugurated by putting Messrs. John Staples and J. Corston through the initiative ceremony, Mr. Staples being Sergeant-at-Arms of the Police Motorcycle Squad. Both endured the ordeal with more or less credit, but they are frank to admit that the Detroit Motorcycle Club's goat is a fractious beast, to put it mildly.

Then followed a wrestling match between two local exponents of that sport, the first struggle lasting twenty-four minutes before the winner was declared.

A liberal supply of refreshments of the eatable, drinkable and smokable kinds were now introduced, but they were too weak to resist the unimpaired appetites of the boys and survived but a short time.

Finally adjournment was made to Fritz Schafus' cozy place on Michigan avenue, where the hilarity was continued until early the following morning.

CINCINNATI, O.—Two-thirds of the forty members of the Queen City Motorcycle Club, of which Charles Haile, Jr., is president, have joined the F. A. M. The club, largely composed of young men who have recently taken up motorcycling, is preparing a comprehensive summer program, to open with a special event Decoration Day, and to include, in all probability, endurance and economy runs, a hill climb or two and a series of track races.

ST. LOUIS, Mo.—The new officers of the St. Louis Motorcycle Club are are follows: President, S. Coultes; Vice-President, J. Baldwin; Secretary, John Hurck; Treasurer, B. C. Hopkins; Captain, Robert Orr; Sergeant-at-Arms, R. Wilson.

AUGUSTA, Ga.—A mass meeting of Augusta motorcyclists was held recently in the Chamber of Commerce Building, and an organization was perfected with the election of the following officers: President, Fred Eve; Vice-President, E. W. Watson; Secretary, Terrence Woodward; Treasurer, George Tidwell.

The following standing committees were appointed: Executive—Messrs. Brinson, Campbell and Tidwell. Ways and Means, Messrs. Brinson, Woodward, Richards and Story. Constitution and By-Laws, Messrs. White, Brinson, Rainey, Woodward and Story. Road officers were chosen as follows; Paul Brinson, Captain; First Lieutenant, W. W. White; Second Lieutenant, E. W. Watson; Color Bearer, H. G. Rainey.

The meeting was enthusiastic, and the prospects seem bright for the club. New members will come in, and the organization is expected to grow, until practically every owner of a motorcycle in Augusta has affiliated with the club.

Among other propositions discussed was one to hold motorcycle races at the Georgia-Carolina fair grounds in the near future, and the idea met with general favor.

MR. EARLE L. OVINGTON, President of the F. A. M., announces the appointment of Dwight Patterson, 45 Broadway, New York, as Chairman of the Legal Committee of the organization. Mr. Patterson is a very enthusiastic motorcyclist, and has long been a prominent member of the New York Motorcycle Club. He of course is a lawyer and is fully posted on the needs and aims of the F. A. M.

BALTIMORE.—One of the features of the recent auto show here was the attendance of fifty members of the Baltimore Motorcycle Club, headed by Captain W. S. Fisher. Fisher, though nearly sixty years old, is one of the most active and by all odds the most enthusiastic motorcyclist in the Oriole City.

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KINKS AND WRINKLES

WITH reference to the Knight engine, it seems a very doubtful point whether the slide valve will ever come to be a sina qua non of motorcycle construction. In the first place the clearance between the sliding sleeves, even in an engine of the size of the Daimler model, has caused comment from engineering critics. If this space were increased, rattle at high speeds would ensure, and if lessened, as would doubtless be the case in a motorcycle engine, the difficulty to overcome would be overheating and insufficient lubrication. All this would mean great difficulty in construction—for what? If economy is the claim it hardly affects us. If silence is the watchword we can obtain that at less cost by efficient mufflers. Certainly increase of power would make motorcyclists sit up and take notice, but I have it on authority that a six cylinder Napier gives off a better reading on a power curve test than a Daimler of equal rating. The poppet valve, of course, is open to improvement; any one will admit that. But if the Knight engine is going to win the day, the claims of the makers will have to be proved.

They say that the Minerva Company in Belgium has actually built a motorcycle engine on these lines, but the engine is not yet before the public. Certainly, the new Daimler car is practically noiseless, but there are at least two poppet valve cars as silent, for in the construction of these even the valve mechanism is "jacketed." Experiments in construction are the rule of the day; in France, for instance, a *three cycle* engine has just made its appearance, this engine eliminating in its design the great fault of the two cycle principle, namely, imperfect scavenging of the exploded gases. A rough technical description of this engine will be found elsewhere.

Regarding Compression

"ARE new pistons necessary after a worn cylinder has been trued up by grinding?"

Doubtless this query arises from the fact that it is known how little metal need be removed by the process of grinding. A general rule is that pistons in motorcycle construction only have a clearance of about .004 inches, sometimes more than this in a cylinder of larger bore.

Now, when the regrinding becomes necessary there is more clearance than this, and when the job is done, still more. Decidedly reliance cannot be placed in such a case solely upon new rings, as there is shown to be more clearance than is advisable, and to fit extra stiff rings makes an imperfect, unmechanical job. The piston should be a working fit. Everyone wants to get the best power out of his engine, therefore think of this when the shadow of regrinding looms in the offing, so to speak.

Testing Compression

IF a leaky valve cap or plug gasket is suspected, smear oil over and around the part and stand on the pedal against compression. If bubbles appear, the trouble is easily cured by fitting new gaskets. If, however, the valves have been thoroughly ground in and still compression is poor, then suspect the piston rings. The handiest way of finding quickly whether the rings are leaking is to run the engine on the stand or road for a little while and then feel the heat of the crank case. If the heat is much more than normal, take the cylinder off and the faulty rings will be blackened just where the gas gets past. If the other rings are not bright it is best to renew them, and compression will return when these new rings have been thoroughly worked in; if it does not, well, then the cylinder really needs regrinding, but this is not likely unless the engine is very old or faulty. Getting the old rings off is a temper trying job unless you know how. Get three thin strips of metal and push them, at equal distances apart, inside the rings, and slip the rings over these. In putting on the new rings, do the job carefully, as they are easily broken.

Fitting Footboards

FOOTBOARDS fitted to any powerful mount are a source of continual comfort and pleasure to the rider. Some riders even like to discard their pedalling gear altogether and fit footboards in their place, but the great objection to this is that it is difficult to start up the machine on the stand without the use of pedals. True, a starting handle can be made to use on the pulley if a stud is fitted, but all the same the use of this is a trick hard to acquire. However, footboards can be fitted in two pieces fore and aft, clear of the pedalling gear; any blacksmith can make strong, flat stays for their support. In front they are better with a slight slope and in some machines can be supported by brackets from the down tube and on one of the engine bolts. Running from just in front of the rear hub the rear footboards should taper at the forward end to avoid interfering with the action of pedalling.

The support stays should be firmly bolted; inside the U piece, which would be made to encircle and bolt on to the tube, a piece of emery cloth fitted will stop the clip in any tendency to slip askew. Support both front boards with a U clip to fit under the tube fixed by a strong bolt and nut on either side running through both clip and cross piece. This and the other stay pieces should have holes through to bolt the footboards on, and a neat job may be done by using big countersunk screws, these being fixed by nuts and washers under the stays or cross piece.

The boards should be made of hard one-inch board and diamond pyramid rubber sheet covering on top and a neat brass, one inch angle edge, also with countersunk screws. The riding comfort in footboards, as described, is great, and in a long jaunt, many changes of position can be made. Also by using these boards a running mount is very easy, there being no hurried dash to find the left pedal.

Keep the Rust Away

NOW is the time for overhauling. Amongst other defects one finds various rusty places. It is quite possible nowadays to get a suitable hard enamel which, if applied with an ordinary amount of skill, looks and wears very little inferior to a stoved enamel. The ordinary enamels, which dry quickly, are of little use, as the surface soon chips and rubs off. Parts to be enamelled should, when possible, be taken off and all rust removed with a very stiff brush, a wire brush preferred. To apply the enamel a fairly stiff varnish brush should be used; a very soft camel hair brush is of no use at all, more especially if the surface to be enamelled is an irregular one.

The main disadvantage in applying lasting enamel is the time it takes to dry hard—it may require a whole week before the part can be handled, and an automobile enameller tells the writer that the use of "driers" spoils the hardness and the chance of a finish that will last. However, this does not matter, as the general overhauling will take a week at least.

Care should be taken to have the part thoroughly clean and free from rust or grit to begin with. The work should

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be done in a good light, preferably daylight, otherwise one will find places here and there that have been missed by the brush, and this tends to give an amateurish look to the job. Another detail worth mentioning is to do the work in a clear atmosphere with no dust blowing about, otherwise the surface will be spoiled. A shabby, rusty exhaust pipe can be blackleaded, also the muffler, and if this is done when needed the whole turnout looks good.

A Good Thing to Know

ONE of the very best wrinkles I have ever come across has been sent to me by a friend who is abroad on a tour. It seems that mounted upon a trusty four cylinder F. N. he was stranded without matches in a country where universal lights are required on all vehicles at dark. One of the plugs was taken out and laid on the cylinder and the engine was started. Then the wily one produced a cigarette and lighted it from the spark at the plug points and in turn ignited his gas lamp from the cigarette and went on his way rejoicing. Quite simple when you think of it, but the trouble is that you don't think of it when you want to! A cigarette might be lighted from a magneto machine if someone else pedalled the motor round, but the four cylinder "gets in" with this stunt as the man who pedalled might kick the cigarette fiend in the mouth during the lighting act!

A Gas Lamp Wrinkle

NEVER let a gas lamp burn out, as doing so clogs the burner and thus gives trouble. Blow it out when you have turned off the water valve and thus save the bother of playing with a piece of thin wire and a "bunged up" burner in the dark.

A Useful Magneto Attachment

A SWITCH to put the magneto spark out of action is of some use, the material benefit of adopting such a fitting being that, when coasting downhill with the exhaust valve raised, there is no spark in the engine if the switch is used and consequently the engine keeps cooler.

Such a switch is an easy matter to fit. Over the contact breaker there is a small steel screw; this has to be connected to the switch by a length of low tension wire. Look now at the markings and construction of the switch. Of course if the wire is connected to the frame by the switch, the magneto will be out of action. Some switches are marked "on" at this position, and if the switch is moved over to the "off" so that the wire is disconnected from the frame the magneto is in action.

A Tip for Mounting

IN writing of the comfort of footboards for "running mounts," the writer thought of a useful wrinkle for keeping the left hand pedal down for this purpose. Many coaster hubs turn the pedals and hangers round when the machine is wheeled along the road. A useful tip is to fasten a small weight to the left hand pedal and thus keep it at the bottom dead center at all times when wheeling the motorcycle.

A running mount is always more graceful than the bowlegged, wabbly variety, and appeals to the tender heart of the fair affinity with whom you have been chatting—gives a sort of debonair "cowboy's farewell" look to the "hull caboodle!"

NOTES OF RECENT SHOWS

KEENE, N. H., March 2nd.—The Consolidated Motorcyclists opened their first automobile and motorcycle show this afternoon. From the time the hall opened early in the afternoon until near midnight the exhibition was well patronized. This is the first motor show ever held under the auspices of an exclusive motorcycle organization. The affair was held for two days at the City Hall, made a very good showing and attracted motorcyclists from all parts of New Hampshire. It included cycles, motorcycles, automobiles and accessories. The motorcycles exhibited were: Indian, C. F. Little; Reading Standard, C. F. Hardee; Marsh-Metz, American Motor Company; Yale, Motor Sales and Repair Company; Excelsior, Stanley T. Kellogg; Thor, Motorcycle Specialty Company; Royal, Royal Motor Works; Merkel, Inc., F. N. Keene Agency, and Midget Bicar, Walton Motor Company.

The Consolidated Motorcyclists is a very live organization, and although but a year old, has a membership of fifty-six. The officers are President, Glenroy W. Scott, of Winchester; Vice-President, Fred S. Morse; Secretary, C. C. Wilber; Treasurer, Henry C. Lake, of Keene. The show was run by the following committee: Harry C. Dean, C. C. Wilber, Fred S. Morse, Earl C. Carpenter and Jay H. Jackson.

TWO motorcycle exhibits were in evidence at the Sportsmen's Show held at Madison Square Garden a week ago. This Show attracted many out-door men from all parts of the country, and the fact that motorcycles were on view was a splendid advertisement, while no doubt the exhibitors reaped direct benefit. The machines shown were the Reliance and the N. S. U., the latter by the McLaughlin & Ashley Motorcycle Company, Inc.

A LARGER net profit was made at the last show in Madison Square Garden than at any former exhibition, the rebate to the exhibitors being about 40 per cent. greater than in 1907 and 1908. This is according to the report of the show committee made by Colonel George Pope, its chairman, which was enthusiastically received. The show was the most successful, both as to receipts and business done by exhibitors. Over $40,000 will be rebated to vehicle exhibitors, to the members of the Motor and Accessory Manufacturers and Motorcycle Manufacturers' Associations. The rebate leaves in the hands of the show committee a large working capital for the next show.

A vote of thanks was accorded the show committee for its work. The same committee (Colonel George Pope, chairman; Charles Clifton and E. P. Chalfant, with M. L. Downs as secretary) was appointed to conduct the tenth National Automobile Show at Madison Square Garden in January, 1910. Work on it will commence at once.

ROCHESTER, N. Y., March 3.—Rochester was delivered over to the hands of the motorist when the Annual Automobile Show was opened at Convention Hall last night. Mayor Edgerton switched on the illumination at 6 o'clock, and from that time until near midnight the hall was crowded. In the decorations ten thousand yards of canvas were used. The scene painters reproduced some very interesting scenes from old cities of Europe, including parks, palaces, hotels, etc. The hall was laid out in a sort of auto city with streets and avenues characteristically named, such as: Honk Honk Speedway, Carbureter Avenue, etc. The motorcycles on view were exhibited by the Harley-Davidson, Curtiss, Armac and the Reliance people. F. L. Hughes, a local agent, also showed the New Era and the Greyhound.

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L. H. CORNISH - - - - - - *Advertising*

Ahead of the President

DID you read it in the Inauguration Day papers? Thus was it printed: "It was just a few minutes after 8 o'clock last evening when the Taft automobile, preceded by a secret service agent on a motorcycle, drove up to the White House entrance. The rain was coming down in bucketsfull."

Could there be a happier omen for the two-wheeler? Despite most unseemly activity on the part of Jupiter Pluvius, a motorcycle, ridden by a secret service man, preceded the new President on his journey to the White House. The motorcycle was just where it properly belonged, in the van of the procession, ahead of the automobile, paving the way, as it were, for His Excellency, the President of the United States.

Remember, too, that it was raining in torrents. Still, the motorcycle served a goodly purpose, demonstrating its efficiency under most adverse meteorological conditions. However that may be, here was, not Taft and the motorcycle, but, instead, the motorcycle, and then Taft.

Thus did the motorcycle lead in the most important event of the year. It has found a place in the front ranks, and, mark you, it will stay there.

Between Seasons

'TIS 'tween hay and grass just now. The agents have ordered their samples, and, in many cases, more than samples. The factories are busy on these, and soon, from ocean to ocean, 1909 motorcycles will be on view. It is a matter of fact that established agents have placed larger, bigger 1909 *first* orders than ever before. It is equally true that most factories are working heartily, hopefully. A few of them are "sold up." Another encouraging sign is that many bicycle, sporting goods and automobile concerns have added motorcycles. While all this is very satisfactory, still, it's 'tween hay and grass. The query is: What will the public do? Will they want them and want them bad? But soon the sun will swing higher, and then we shall know. The belief of those who should best know—the men who have capital invested in motorcycle plants and accessories—is that the 1909 demand will be good, decidedly good. The more optimistic even predict a boom.

Isolated No Longer

ISOLATION, says an authority, should be measured in terms, "not of distance, but of accessibility." True as the rotundity of the sphere upon which we mortals work out the span of our respective existences. It has also been established beyond all question that nothing serves better than good roads the purpose of making isolation merely nominal. Inquiry made by government authorities shows that the progress of civilization itself is intimately related to the condition of the roads in each community investigated.

The motorcycle's advantages are therefore three, namely, practical, recreative and finally, aesthetic. Probably the second feature has undergone the utmost development up to the present time, serving also more than anything else to make the motorcycle a popular agency of locomotion. It is now being put to the test in commercial relations, and its success in this field is confidently predicted by those who are most conversant with the opportunities it offers there.

To a certain extent, the motorcycle has proven of educational value to many of its riders, but it has only begun to do good work in this respect. That the motorcycle, offering opportunities for extended trips into new territory, is an educator and a mind-broadener, cannot be doubted for a moment. Of course, there are many motorcyclists who, like certain bicycle riders of the last generation, only ride, and nothing more. These men do not know what motorcycling means; they are almost as mechanical in their natures as the machines upon which they are borne.

The locomotive, the steamboat, the telegraph, the telephone and even the printing press, had at first only a commercial value. Who would dare insist that their worth was thus limited to-day? Instead they are among the world's greatest civilizing agencies, and why? Simply because they have mitigated the inconveniences of isolation, and made man more accessible to his fellows. That is just what the motorcycle is doing, and that is why the modest two-wheeler is sure to prove a civilizing agent.

Mexicans Fall In Line

MEXICO CITY has fallen into line and ordered ten motorcycles for postal use. It is now an accepted fact that, aside from certain unusual conditions, the motorcycle is the ideal instrument for the use of carriers covering long distances. At present, in this country, the carrier must supply his own means of transportation. But some day, some big man will call on the Postmaster General, will show him a machine especially adapted for postal service, and will *induce* him to send out a pamphlet to every rural carrier in this country. That pamphlet will illustrate an R. F. D. motorcycle and will point out how infinitely superior it is to the one hoss shay for rural delivery work. This postal service alone, once thoroughly alive to motorcycle merit, would create a big, new demand for motorcycles.

Public Sentiment More Favorable

WITH the motorcyclist seeking to improve his personal appearance while riding, and evincing a disposition to make less frequent use of his muffler cut-out, many of the old-fashioned prejudices against the machine are disappearing. With this moderation of public sentiment there has arisen a willingness to look into the machine, and a readiness to admit its great efficiency, from the standpoint of recreation, as well as that of practical use. This year promises to prove an epoch in the history of the motorcycle, if for no other reason than that the merits of 1909 two-wheelers are such as to actually

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compel a heretofore inimical or indifferent public to consider them fairly and without prejudice.

Motorcyclists will hasten satisfactory developments by doing all the missionary work they can through the press, which up to the present time has as a rule regarded the motorcycle simply as a freakish racing vehicle. This is particularly true in suburban districts, and of provincial newspapers. It is manifest in many cases where there is no longer any serious hostility to the automobile. Accordingly, it behooves enterprising riders, having the interests of the cause at heart, to try to serve as press agents to the publications in their community, and to keep them posted on the good points and the praiseworthy accomplishments of the motorcycle. Don't permit your home papers to print only that which does injury, when there is so much of good to be published. In most cases, the editors of these papers will be only too pleased to print your contributions, provided of course, they are in the form of news, and especially when they have a personal quality.

In this way the public, over which the press has a great influence, will ultimately be led to take another and the proper view of the motorcycle. Real progression will be possible only when the general press deals fairly with motorcycledom, and that state of affairs will follow quickly upon the systematic exercise of the kind of local activity herein suggested.

The Mooted Muffler Question

CONTROVERSIALISTS are still waging a merry war over the subject of mufflers and cut-outs. Aside from the practical advantages to be derived at the expense of the auditory nerves of over-sensitive people, there is something worth considering in the claim that absolutely noiseless vehicles are the most dangerous of the self-propelled class. This condition undoubtedly explains the greatly disproportionate number of automobile casualties, as compared with those caused by motorcyclists. Still, the efforts of manufacturers to appease public clamor against motorcycling noises are to be highly commended, particularly since these endeavors have been so successful.

When the 1909 models are put into actual operation this spring, the public will find that the heretofore most objectionable feature of the motorcycle has been eliminated, or nearly so. The retention of a modicum of noise should cause no complaint, for it serves the very practical purpose of warning pedestrians, which were it not for the exhaust from the engine, would have to be given by means of the constant tooting of horns.

In any event, this season will probably see the last of the present hostility to motorcycles, merely on account of their clatter, and it would be not all surprising were objection soon to be raised against the machines because of their not being noisy enough.

A Very Good Reason

THE grapevine telegraph *whispered* the news far and wide that the "Big Fellow" was not very much in evidence at the shows. The superficial construed this to mean that there was "not so much doing as usual," and that the biggest concern in the business was *feeling* competition. Meanwhile the "Big Fellow" was having the time of his life *at* the factory, which is only just a shade less than 2,000 motorcycles *behind present orders.*

WELL, BOSTON'S the last of the big shows. After Boston, not the deluge, but back to the factory, back to the desk, the road, back to *regular* channels of work, work which is tangible, direct, effective. For this, much thanks!

Prizes for Cleverness

THE G & J Tire Company offer three cash prizes—$25, $15 and $10—for three advertisements. They want the readers of this paper to write them and go in for the prizes. They themselves, or at least their printers' ink expert, has, for the time being, exhausted himself recording G & J victories. He is wearied of recording G & J merit. But, beyond that, the G & J folks want to know the other side of the story. They know their tires well, know exactly what they, as makers, can say about them. But they want the other fellow's ideas. Hence the prizes. The conditions are all stated in their double blanket in this issue. Try your 'prentice hand. You may land "in the money." The competition closes April 15th.

Just a Suggestion

WHATEVER it may have done to benefit the sport and trade of motorcycling at its various sessions—which were, very properly, always closed sessions—the Motorcycle Manufacturers' Association has accomplished one good thing in the open. Although it was organized only a short time before the Madison Square Automobile Show, the management of that show placed it on the same status as the older organizations concerned. In doing so, the Garden Show management showed broadness and even generosity. And therefore, the Association will share in the rebates which are annually turned back to the recognized automobile organizations. The rebate to the Motorcycle Association will approximate something close to $1,700, a handsome addition to a young and no doubt slender treasury. Query: Would it pay the Association to spend $500 of this fund on some national press work, newspaper notoriety? The story of Albert Bartsch recently published in *Harper's Weekly* and, cut to the bone, reprinted in our last issue, has been copied far and wide in town and city newspapers. Articles of that sort are eagerly read by non-riders, and it is splendid missionary work. A good press agent and $500 should create $50,000 worth of motorcycle demand.

New England's Prospects

IN this issue is a bird's eye view of motorcycling as it is in New England. Most of the towns report. The dominant note is optimistic, soberly optimistic. But sobriety might be expected of New England. Exuberant enthusiasm is not one of her earmarks. If she entertains a boom of any sort whatever within her austere domain, she would be unaware. She would hate to mention the fact, if she knew it. But this has its good side. The New England merchant does not *overload.* What he buys he pays for. When he places an order the due date of the invoice is always startingly clear to him. New England has a keen commercial conscience. Hence her very high credit. Some makers who may scan this story will read selling opportunities between the lines.

THE Indianapolis fellows are already doing some good work on the 1909 F. A. M. Meet. They want it, want it bad. In this issue there are some things about Indianapolis, from the motorcyclists's viewpoint. At present there is no other city in the field for the meet, and, at this time, it would seem that G & J town will win out.

THE Missouri House of Representatives has at last gotten after the automobilists and motorcyclists. They embodied their views as to motoring speed in a bill which passed the House of Representatives on March 3rd. It was then submitted to the Senate, who are now sitting on it.

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THE CARE AND REPAIR OF MOTORCYCLE TIRES

THE G & J FACTORY AND ONE OF ITS MOST POPULAR TIRES, THE CORRUGATED TREAD.

"RIDING a flat tire is a costly mistake." That is the simple statement contained in form or substance in every pamphlet devoted to tires. It introduces an article entitled "Repairing and Applying G & J Tires," printed in an attractive little booklet issued by the well known Indianapolis manufacturers.

"Even an inexperienced rider," continues the article, "will feel the give of a tire the moment it begins to go down. When this occurs, no chances whatever should be taken, but the puncture should be located and repaired without riding another block. Since glass, tacks and nails are the cause of nearly all punctures, look for a cut in the outer casing or for a tack or a nail embedded in it. If nothing is found here, test the valve and see that the air check is in proper position and the cap on tight.

In the majority of cases a puncture can be located before the tire is removed from the rim. Having located it, observe that on the outer case near the valve is printed "Apply this edge last and remove it first." Push in this edge near the point of the puncture with the thumbs, at the same time raising it free from the rim. The edge will be easily freed, as much as may be necessary, by running the thumb around under it. Pull out the tube, find the puncture and sandpaper the surface of the tube about it until perfectly clean and slightly rough. Cut a piece of patching rubber and sandpaper it likewise. Apply a coat of cement to both tube and patch. Then, when it is sticky, apply another. As it becomes sticky again, apply the patch over the puncture and press it down firmly. Do not try to make a repair too quickly, but allow each coat to become "tacky" before applying the patch. Take care in replacing the tube lest you open an air passage under the patch, while the cement is still fresh."

The G & J Company reports that the tire which seems to be most in demand this year is the corrugated tread; second in order is the Bailey, and thereafter comes the basket tread and the raised tread, respectively.

From Coshocton to Jacksonville

CLARENCE GUENTHER and "Shorty" Stewart, of Coshocton, O., are planning a trip to Jacksonville, Fla. They are thinking of starting about the middle of April, and they expect to take all summer in making the trip, stopping at all interesting points en route.

Their machine will be overhauled preparatory to the extensive trip. They will carry a complete repair kit and an extra set of tires. No baggage excepting this will be taken in order to make the load as light as possible.

Guenther and Stewart will ship the machine home after they reach Jacksonville, and they will return by rail.

Whipple's Latest A "Warmer"

CONTINUALLY inventing something whereby to extend the use of his pet hobby, "Whipple, the Motorcycle Man," of Chicago, Ill., has just produced a combination foot and hand warmer, as illustrated in the accompanying cut. To the underside of the footrest is attached a tin box, into which the exhaust from the engine is passed, and thence through a short piece of flexible metal tubing, to the handlebars. It is Mr. Whipple's intention to attach permanently to the bar just in front of the long rubber grips so as to extend backward and cover the same, a pair of funnel shaped cuffs or gauntlets made of patent leather and lined with cloth. These may be ventilated as much as may be desired so as to maintain the most comfortable temperature. This device, excepting the cuffs, has been used by Whipple during the coldest days this season and has proven a complete success from the start. Go ahead, boys, and equip your machines this way and you will easily brave the "chilling blasts." Instead of putting your motorcycle "up for the winter" you will begin to consider it as they do on the Pacific slope, an "all the year around" machine. This is particularly true where sidecars or "forecars" are employed, which stand up on icy or slippery pavement. Mr. Whipple offers no restriction to the individual rider on this very valuable improvement, but hopes it may further extend the use of the motorcycle. Further details may be had from Whipple, the Motorcycle Man, Chicago.

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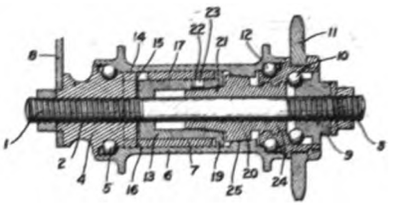
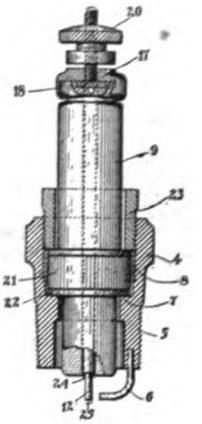
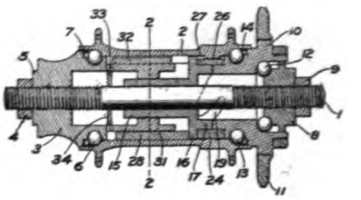
Diagrams of Parts

Recently Patented



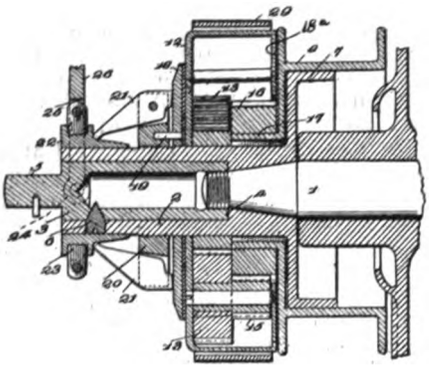
1. Coaster-Brake.

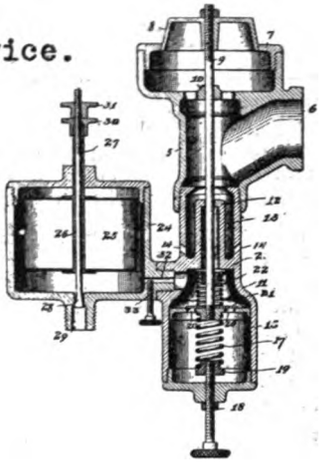




2. Coaster-Brake.

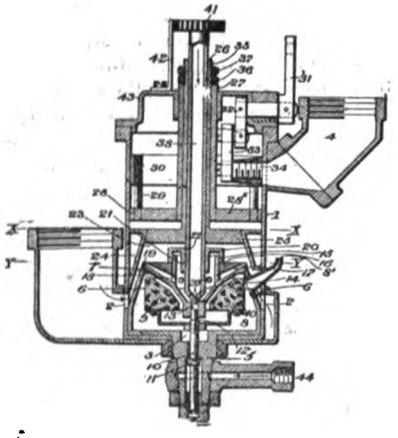
3. Ignition Device.

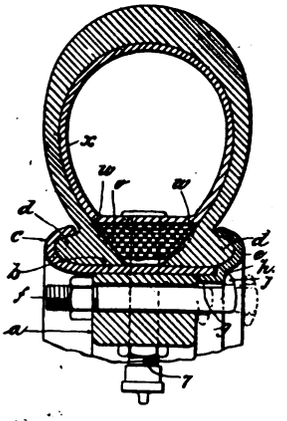


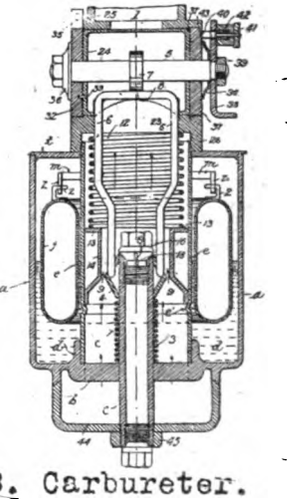


4. Changeable Speed Gear.

5. Carbureter.



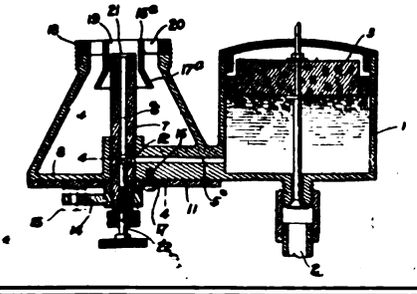




6. Carbureter.

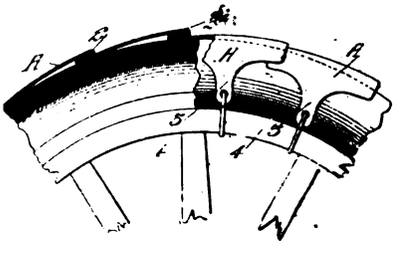
7 Tire.

8. Carbureter.



9. Carbureter.

10. Tire Protector.



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A GROUP OF NEW IDEAS

Brief Descriptions of Recently Granted Patents for Parts Designed for or Applicable to Motorcycle Use

On the opposite page are illustrated ten motorcycle parts patents for which have recently been granted by the United States government to their respective inventors. These patents, briefly described, are as follows:

No. 1. Back-Pedaling Coaster-Brake. Frederick S. Ellett, Elmira, N. Y., assignor to Eclipse Machine Company, Elmira, N. Y. Serial No. 430,228. The combination with a wheel hub and an anchored brake, of a driver for the hub and brake, normally disconnected from both; a longitudinally shiftable connector, having an outwardly projecting sleeve adapted to support the driver; and means whereby rotation of the driver upon the sleeve serves to shift connector longitudinally to connect operatively the driver with the brake.

No. 2. Back-Pedaling Coaster-Brake. Alexander P. Morrow, Elmira, N. Y. Serial No. 335,039. In a back pedaling brake for cycles, a driving member; a hub; a stationary block, adapted to be attached to the frame of the cycle, and having a brake clutch member; a movable brake shoe; a brake actuator revoluble with the driving member, and adapted on back pedaling to move the brake shoe in the direction of the brake clutch member; a brake carrier, revoluble with the brake actuator, having wedge means for actuating brake shoe, adapted to be moved by engagement with the brake shoe into engagement with brake clutch member, and to actuate brake shoe when the latter is moved with reference thereto in the direction of brake clutch member; cam connections between brake actuator and driving member, whereby the former is moved in the direction of the brake clutch member on back pedaling; and means for causing driving engagement between driving member and hub on forward pedaling.

No. 3. Spark Plug. Edward M. Benford, Mount Vernon, N. Y. Serial No. 413,394. An ignition device comprising a one piece tubular porcelain insulator, a conducting stem having a free fit within the tubular insulator and having its ends projecting beyond the ends of the insulator, one of the projecting ends constituting a sparking point and the other a binding post, and a metal cap rigid with the stem at the binding post end and secured to the insulator, and means carried by the stem and engaging the insulator for preventing angular movement of one of these relative to the other.

No. 4. Changeable-Speed Gearing for Motorcycles. Carl H. Lang, Chicago, Ill. Serial No. 413,146. The combination with a motor shaft, of a drive element mounted thereon, a pulley mounted for revoluble movement on the drive element and provided with a gear wheel, a gear case mounted alongside of the pulley and inclosing gear wheel, relatively small and large pinions mounted side by side in the case and rigidly connected together, the small pinion meshing with gear wheel, a pinion fast on the drive element and meshing with the large pinion within the gear case, means for directly connecting the drive element with the gear case and the gear case with the pulley, whereby to lock the pinions together and effect the direct rotation of the pulleys, and means for holding the gear case stationary.

No. 5. Carbureter. Walter A. Daley, Chicago, Ill. Serial No. 198,604. In a carbureter, the combination with a casing having a lateral branch designed for connection to the suction side of an engine, of means for admitting and commingling air and fuel located on one side of branch, an air-intake valve located on the opposite side and having a stem extending through the casing, and means connected with valve-stem serving to retard the closing movement of the valve between successive suction impulses.

No. 6. Carbureter. Alfred Weiland, Philadelphia, Pa. Serial No. 428,792. In a device of the character described, a casing, a partition in the casing forming a reservoir and a mixture chamber, an auxiliary reservoir formed in the partition and communicating with mixing chamber, an air inlet to mixing chamber, a fluid inlet to each reservoir, means to control fluid inlets, and means communicating with auxiliary reservoir whereby air is admitted thereto below the level of the fluid.

No. 7. Tire. Charles E. W. Woodward, Chicopee Falls, Mass. Serial No. 294,767. A tire construction comprising an outer casing having circumferentially disposed locking ribs, a locking ring consisting of inextensible flexible material capable of lateral compression without displacement of its exterior surface, said ring being provided with a laterally disposed groove, and means in the groove for locking the ends of the ring together. In a tire of the character described, a locking ring.

No. 8. Carbureter. Carl O. Hedstrom, Springfield, Mass. Serial No. 352,120. In a carbureter of a float feed type, an atomizing nozzle, a double cone-shaped baffle-plate adjustably mounted on said nozzle, means for deflecting the incoming air towards said baffle-plate whereby the velocity of the same is increased as it passes said nozzle. An atomizing nozzle is provided with ports and communicating with the reservoir, a cylindrical element having an inclined wall, an adjustable double cone-shaped element for deflecting the flow of air through the carbureter and located in proximity to the inclined wall of the cylindrical element whereby the direction of incoming air may be deflected towards the ports of the atomizing nozzle and the volume of the incoming air thereby varied.

No. 9. Carbureter. Frank H. Otis, Rochester, N. Y. Serial No. 434,413. A carbureter comprising a chamber having an air inlet, a valve bearing and a lateral fuel supply passage intersecting the bearing, a jet nozzle mounted to turn in the bearing and having a duct in its bearing portion to register with supply passage when the nozzle is turned, and an air valve carried by the nozzle to turn therewith; whereby the fuel passage and air inlet will be opened and closed simultaneously and in the same degree.

No. 10. Tire Protector. John O. Getz, Alameda, Cal. Serial No. 412,511. A tire armor consisting of a series of independent shields curved transversely to substantially fit the transverse curvature of the tire, each shield having an outwardly turned flange at one end, and an inwardly turned flange at the other.

IN 1907 one of the enterprising motorcycle dealers of Milwaukee sold the police department a machine for use in chasing auto speeders. The authorities were so well pleased with the results that they purchased two additional machines. The police records show that each of the motorcycle policemen have made between five and six times as many arrests for speeding as any of the other patrolmen. This year the auto and motorcycle speeders of Milwaukee will have to dodge no less than fifteen policemen mounted on motorcycles, for the city will purchase twelve more machines in the very near future.

NEW ORLEANS.—The local police department has purchased four motorcycles, which have been assigned to the four most active members of the force.

THE ten machines purchased by the postal authorities of Mexico City were delivered last month, and after a few days spent in breaking in the messengers who were selected to drive them, were immediately put to work in collecting mail from the boxes about the city. Some of the machines are fitted with sidecar attachments, and the others are tricars. Both have boxes of about the same capacity. An average of one and one-half hours is saved in collecting mail by this means.

THE Topeka, Kansas, City Council has referred to the Ways and Means Committee a resolution instructing the City Clerk to advertise for bids for a motorcycle to be used in the Police Department.

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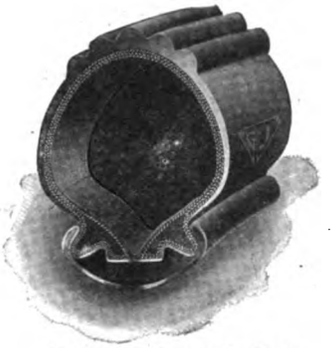
$50 in Gold to



G & J Motorcycle Tire
Corrugated Tread

$25 first prize; $15 secon
the best advertisements on
Tires. Open to all riders.
purpose and conditions of th

WE who **make** Indianapolis G & J Motorcycle Tires know their merits too well to **advertise** those merits as forcefully as we should. In other words we may be compared to the undefeated racer.

He becomes so accustomed to defeating competitor after competitor that he doesn't feel the elation, the **enthusiasm** that makes his **audience** cheer him to the echo. He **expects** to win.

It has become a **habit** with us to make tires of **unvarying** superiority. The result is that we have lost the power to **express** their excellence as enthusiastically as the **rider** who **uses** them.

We talk from the viewpoint of the manufacturer who knows that certain processes produce certain tires. He talks from the viewpoint of the user who sees the **results** these tires give in actual service.

And it is **results**—not causes—that tire users want to know.

We therefore offer the above prizes to obtain the opinions of motorcyclists on Indianapolis G & J Tires.

If you use them (and very few don't) tell **your** experience with them. Add to it, if you wish, the opinions of your friends.

G & J TIRE COMPA

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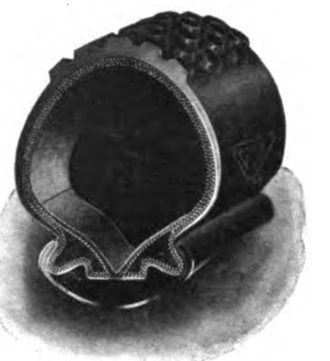
Motorcyclists

prize; $10 third prize for
ıdianapolis G & J Motorcycle
No restrictions. Read the
contest below and get busy



G & J Motorcycle Tire
Bailey Tread

If you have never used them, you very probably know several things that other motorcycle tires don't do that they should. You can truthfully assert that Indianapolis G & J Tires **do all** these things.

Briefly, the point is this. Write the best advertisement you can—an advertisement which you think will interest other riders. Don't stint yourself. Make it as long as you wish. Have it in the form of a reading notice or a display ad. But make it **interesting.** You don't have to be an ad-writer to do that.

All advertisements must be in our hands not later than April 15.

The prizes will be awarded by a committee of three outside of this company—consisting of the advertising manager of this paper and advertising managers of two other publications.

No contributions will be returned and we reserve the right to use any in addition to the prize winners.

The names of the winning contributors will be published in this paper as soon as the judges make their award.

Write **your** advertisement at once and send it to the

NY, Indianapolis, Ind.

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QUESTIONS & ANSWERS

How to Make It "Mote"

I HAVE a friend who bought a bicycle with what is called a Curtiss motor attached. The motor is new and apparently everything is O. K., but so far none of us has been able to make it "mote." The chain from the engine sprocket drives a rubber covered spool that runs on the rear tire. Thus the engine would run under instead of over to give the desired direction to the rear tire.

How can he change the direction of motor so as to be able to use belt drive? Have you ever heard good reports from these motors attached to bicycles?

How do you compute the cubical contents of the cylinder head?

Thanking you in advance, I remain, yours truly,

THEO. WOOLMAN.

It would be distinctly advisable to redesign the construction of this motorcycle. In the first place even a specially heavy bicycle is hardly strong enough to stand the strain of a motor attachment for any length of time.

First, it would be best to fit girder forks, or a girder attachment, to the existing forks. Then, as you suggest, a belt drive would be preferable to your present friction drive, as this is hardly an efficient transmission and was discarded somewhere about the stone age. Your left hand rear fork and stay will have to be rebuilt *unless* there happens to be sufficient clearance for a seven-eighth V belt rim, which is extremely doubtful.

You might be able to obtain two of the drop forgings used for belt rim clearance on the present Curtiss machine and cut the fork and stay to admit of these being brazed in place. The present chain sprocket on the engine shaft can be replaced by a 28 degree pulley fitted by use of a hardened key. You do not state the reputed power of the engine, but on the supposition that it is moderate, say 2 horsepower, a gear of 5½ to 1 is advised. Replace present back wheel spokes by the strongest ones you can obtain before fixing the rear belt rim thereto. Avoid the use of a jockey pulley if you can, but be careful that the belt does not rub or touch anywhere.

In the matter of your starting difficulty, you do not give much data to go upon, but it is presumed that you have thoroughly overhauled the carbureter and electrical business, therefore, should such be the case, look to the timing, but be sure before playing with this that the spark plug, coil batteries and wiring are O. K., and that the carbureter is working. It may be that the motor *is* timed to run in a forward direction and the friction drive was added afterwards, so if you are converting the machine to a belt drive you may find that it runs all right, but I will give you the correct method of timing the engine.

Take the igniter box and the igniter cam off until you leave the timing gear exposed. Now take out the plug and get a stiff wire and revolve the engine by hand until the piston is at the top of the stroke, then let it travel one-thirty-second of an inch down. Now look at the exhaust cam, which you have left on the machine, and see that the cam has released the tappet and let the valve close just at this position—if not, set it so that it does.

Now continue to turn the motor forward by hand as before until the piston has traveled down and up to the top again; then turn again to the one thirty-second of an inch down below the "dead center" of the stroke and set the igniter cam so that the platinum points on igniter separate just at this time.

To get the reverse action find out which way the igniter cam revolves and set it in *almost* the opposite position to the above.

I should, however, strongly advise you to alter present form of drive as it has many faults. In the past, critics definitely stated that having the motor running in the opposite direction to the plane of travel produced a tendency to sideslip, this criticism being levelled at a type driven in those days by a crossed belt; but the main points against this drive you describe are its absorption of engine power, its tendency to be inefficient on wet roads or mud and its wearing of the tire.

The mathematical formula most usually adopted to find the cubical capacity is as follows: $CC=.7854xD^2xL$, D meaning bore and L the stroke. Again, for ascertaining the horsepower: $HP=\frac{D^2xLxN}{18,000}$, N being the number of revolutions per minute.

Timing and Cleaning

IF I advance the timing of my exhaust valve on my 2¼-h Thor, will it give me more speed, and will it help to any extent to keep the engine cooler? Can I clean the carbon out of my engine with bicarbonate of soda?

Yours sincerely,

C. B. GRUNDY.

Do not alter the timing of your exhaust valve. It should open quickly at the bottom of piston stroke. Try grinding it in with corn emery and oil and test with a knife blade for the proper lift, as per "Kinks and Wrinkles" of March 1st. You also might experiment with a new spring.

It is not necessary to use bicarbonate of soda unless in a very bad case of carbonization. Take off the cylinder and scrape the combustion head and piston head clean, washing with gasoline afterwards. Do not touch sides of piston or cylinder walls. See that the rings are not blackened. If they are, fit new ones as instructed in our last issue. After reassembling finish the whole job by cleaning the carbureter, facing up contacts, etc. Shove in a dose of oil and go on your way rejoicing.

Gasoline and Mileage

I RECENTLY purchased a 5-h. double cylinder Indian, and would like to know how far this machine should run on a gallon of gasoline. Could you at the same time give me the dues, to whom to apply and any other information about the Concourse Motorcycle Club, of New York City?

Yours truly, A SUBSCRIBER.

Any 5-h. twin should carry you at least sixty-five miles on one gallon gasoline. Many do seventy to seventy-five miles on that quantity. The dues in the Concourse Motorcycle Club are two dollars a year, and the initiation fee is one dollar. For application blank and further information address M. P. Sullivan, 110 E. 159th street, New York City.

I NOTICED that in your query page of March 1st, you stated a 2¼-h. motor to be too weak to carry a sidecar. In reference to the above I beg to say that I have a 1¾-h. motor and sidecar that will climb most any of the hills in this section of the country, and climb them at fair speed. I have a number of times gone up hills alongside of automobiles without slowing down of engine, where the drivers of the auto have been forced to change their gears and sometimes stop entirely.

Yours respectfully,

Philadelphia, Pa. H. J. SCHUENEMANN.

Motorcycles imported into Australia during the nine months ending September 30, 1908, were valued at $59,361, the duty being $16,881.

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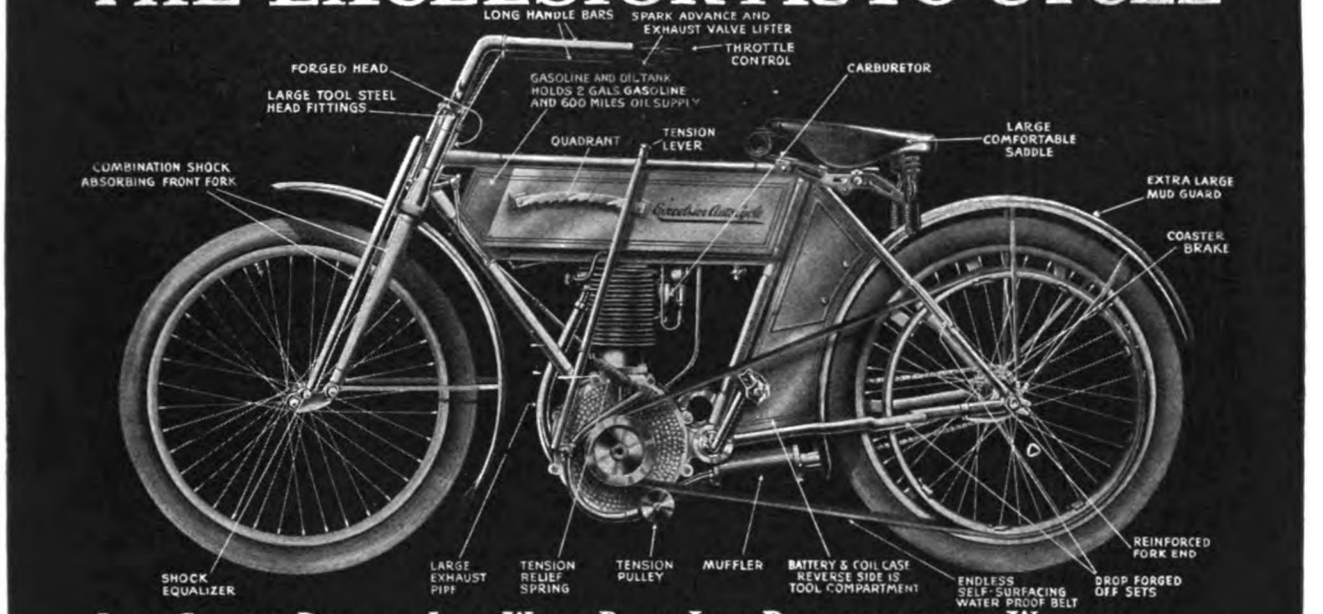
THE EXCELSIOR AUTO-CYCLE



LOW SADDLE POSITION-LONG WHEEL BASE-LOW DISPOSITION OF WEIGHT

A Few of the Many Points Wherein
THE EXCELSIOR EXCELS

A powerful, silent, vibrationless motor that is big enough for the job and does not wear itself out by excessive speed to meet the overload.

A straight-line frame that is built on scientific lines, with every point of stress properly reinforced, not merely a collection of tubing bent to dodge the motor and accessories and heavy enough to hold up by main strength and awkwardness.

A low, comfortable saddle position that lowers the center of gravity, eliminates skidding and makes the Excelsior Auto-Cycle the touring car of motor cycles.

A shock-absorbing front fork that acts along the line of impact, that overcomes all road irregularities without jolt or jar.

A lubricating system that places an abundant quantity of oil where it is needed and keeps it there and not on the outside of the machine or the rider.

An accessible machine, in which all parts may be reached with the least possible interference with any other part, and the wheels removed without interference with mud guards or other accessories.

Independent belt and chain adjustment, whereby both belt and chain may be kept at proper tension.

Low saddle position and free motor, enabling the rider to stop at will without stopping the motor, rest comfortably in the saddle with both feet on the ground, and proceed by merely advancing the tension lever and replacing the feet upon the pedals.

A machine that is sold at a fixed and invariable price by established dealers only, thereby protecting the buyer from depreciation in value through price-cutting by overstocked dealers or curbstone brokers.

A machine that is backed by the financial strength, factory facilities and sterling reputation of a company that has been in business since 1876.

Our new Catalog M. C. 229 gives full details. Write for it today.

EXCELSIOR SUPPLY COMPANY

233-237 RANDOLPH STREET CHICAGO, ILLINOIS

ESTABLISHED 1876

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Aurora Company Takes Coaster Brake License.

THE New Departure Manufacturing Company, of Bristol, Conn., announces that the Aurora Automatic Machinery Company, manufacturer of the Thor Coaster Brake, has been granted a license to manufacture coaster brakes under controlling New Departure patents. Suits for infringement on the New Departure Mfg. Co.'s patents was instituted by the Aurora Company in the United States Circuit Court some months ago, but of course the application of the Aurora Company to take out a license under the patents mentioned terminates the legal proceedings. Suit for infringement of these same patent rights has been begun in the courts against the manufacturers of the Atherton Coaster Brake, this being the only coaster brake concern in America which is not manufacturing under the New Departure patents.

The licensing of these manufacturers involves other important trade arrangements which have contributed to establish the coaster brake business on a firm and stable business basis, and which have eliminated certain bad trade conditions that prevailed last season. Certain features of these arrangements insure the maintenance of a high grade quality of product, while a reasonable profit is guaranteed to those who make and to those who sell coaster brakes. At the same time the riding public will be protected against coaster brakes of inferior manufacture, bad design and cheap material. The strengthening of the coaster brake situation, now that motorcycling is expanding so rapidly, is regarded on all sides with great favor, and it may be taken to indicate an exceedingly promising state of affairs.

NEWARK, N. J.—The Breeze Carbureter Company has made arrangements with T. F. Russell & Company, 22 Lincoln street, Boston, Mass., to take care of its rapidly increasing New England business. A large stock has been placed in the Boston office so that deliveries can be made immediately upon receipt of orders covering any article the Breeze Carbureter Company manufactures, either carbureters, strainers or check valves.

The members of the firm of T. F. Russell & Company are known for their geniality of person and liberality of views in dealing with the trade. Associated with T. F. Russell & Company are a number of first class, wide-awake salesmen, which means that the connection will result to the mutual benefit of both the Breeze Carbureter Company and T. F. Russell & Company. The latter have started marketing the new button-adjusted "Service" Breeze Carbureter, which has just been designed.

AMONG recent interesting corporations is that of Emil Grossman Company, with a capital of $100,000 and with a location at 296 Broadway. This concern will manufacture magnetos and spark plugs for automobile and motorcycle use. They expect to cut quite a figure in the motorcycle field. Their plant is already under way and they have gotten out circulars describing their Red Head Spark Plug. The head of the company, Emil Grossman, has long been recognized as an important selling power in the automobile field. He is the President of the National Sales Corporation, which handles many automobile and motorcycle specialties.

OTTO PAYNE, of Baldwin, L. I., is having printed a complete catalogue of accessories purchaseable at his store. He has made arrangements to carry a full line of motorcycle goods, and will make specialties of the G & J, Morgan & Wright and Empire tires. No doubt many a motorcyclist passing through Baldwin's will have occasion to call on Brother Otto this spring and summer.

TEMPORARILY, the Jones Speedometer is without an office in Hartford, Conn. On Tuesday, February 25th, fire rendered its branch at 284 Trumbull street, in that city, uninhabitable for the time being, and pending repairs the New York City headquarters of the Jones Speedometer will take care of the Connecticut trade.

THE Bosch Magneto Company announces that it will shortly open a factory in New York City, which is its sales headquarters. This concern, with its various ignition specialties, has built up a tremendous American trade, so large in fact, that it was deemed necessary to open a plant of its own on this side of the water.

DETROIT, Mich.—William E. Metzger, the leading Michigan motorcycle and bicycle dealer, has secured a lease of the corner store at High street and Woodward avenue, formerly occupied by John Blessed & Son, and when the store is remodeled will be one of the finest motorcycle and bicycle stores in the United States. Metzger, who has been in business at 252 Woodward avenue for the past fourteen years, will be in his new location April 1, and will sell the Pierce four cylinder, Indian and Excelsior motorcycles, the Tribune, Cleveland, Racycle, Pierce, Yale, Erie, Marquette, Crescent and Cornell bicycles.

NEWARK.—Benjamin F. Howard, who has just established the local agency for the M. M. motorcycles, had a busy and successful week of it at the Newark show. Mr. Howard has proved through his demonstration that the popularity of double cylinder engines has increased in New Jersey in response to a demand for greater power. Mr. Howard has his agency at 38 Belleville avenue.

OMAHA, Neb.—The Third Annual Automobile Show was held at the Auditorium on February 24 to 27. The Omaha Bicycle Company had a fine exhibit on view. They showed the Indian, Pierce and Harley-Davidson, and they sold out every machine on their stand and took many orders for future delivery.

ALLENTOWN, Pa.—The Hagie Motorcycle Company, of 145 North Sixth street, which handles the Indian motorcycle, finds its business increased so largely that the company has decided to build an addition. The second story will be used as a workroom and the first floor as a store room.

A FIRE, which occurred on his premises November 14th, completely destroying them, only temporarily knocked out John Benders. He has opened a new place at 1334 Wood street, Philadelphia, where he will handle a line of motorcycles and complete accessories for bicycles and motorcycles.

S. F. HEATH & CO., 286 Columbus avenue, Boston, Mass., are preparing a descriptive folder describing the Heath Challenge V and flat belt. They are making special prices for March.

THE Motorcycle Specialty Company, 258 Columbus avenue, Boston, is to represent the Thor motorcycles in most of the New England States. E. H. Corson, the veteran motorcyclist, will manage the business and travel the territory.

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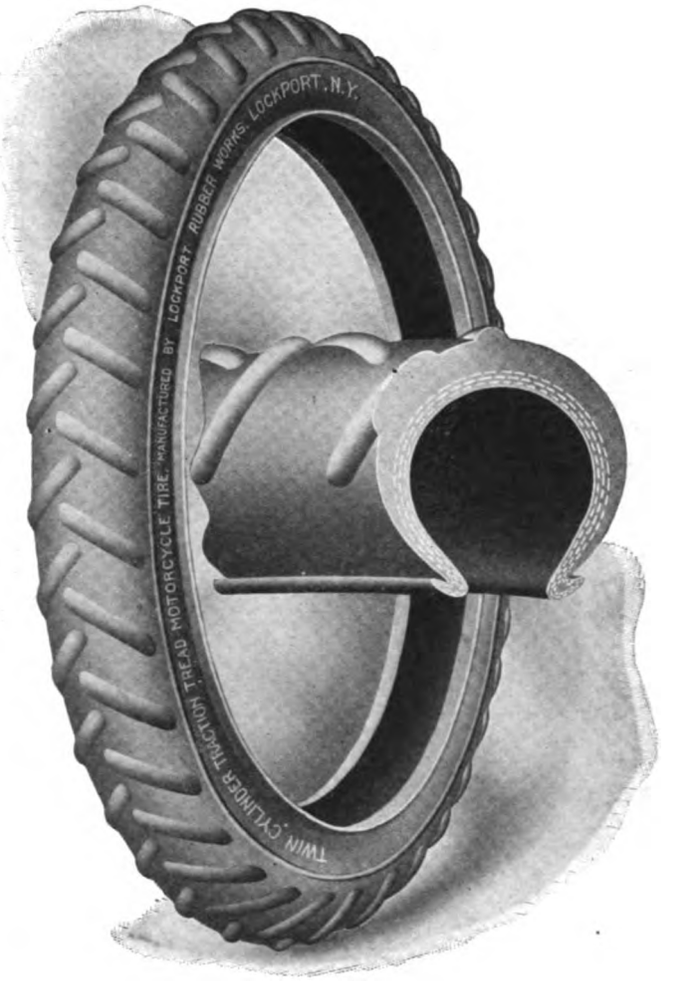
Built For a Motorcycle

TWIN-CYLINDER TRACTION TREAD ANTI-SKID

(Not Built Like a Bicycle Tire)



Traction on the Hill

Traction on the Level

Traction on the Turn

LOCKPORT RUBBER WORKS

Lockport, N. Y.

Kindly always mention the paper when writing advertisers.

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BREVITIES OF INTEREST TO THE TRADE

[illegible] is the title of a seventy two page book [illegible] of information of value to all engaged in import trade. The book is issued by [illegible] New York, for more than forty years the [illegible] of the North German Lloyd Steamship [illegible] of long experience, are qualified [illegible] of foreign moneys with United States [illegible] weights, measurements, tariffs, [illegible] etc., will be found of great value. [illegible] will be sent, postpaid, on request to [illegible] Ordering Department, 5 Greenwich street, [illegible]

[illegible] edition of the R-S advance catalogue having [illegible] the Reading Standard Company has ordered [illegible] of 25,000 copies of an enlarged, twelve [illegible] catalogue which shows illustrations of all the [illegible] and which is now ready for distribution. [illegible] mailed upon request only, is printed on fine [illegible] paper and bound in an embossed, deckel edge [illegible] The front cover shows a large seal with the R-S [illegible] and the color reproduction is very artistic and ef[illegible]

MILWAUKEE, Wis.—S. Lacy Crolius has just taken a position with the Kopmeier Motor Car Company as manager of the motorcycle branch of its business. This concern is the largest auto company in the city at the present time. It has under construction the most extensive garage in this part of the country. Mr. Crolius will handle the Indian line exclusively in this part of the state. He exhibited a complete Indian line at the Milwaukee Auto Show, March 11, 12 and 13.

CHICAGO, Ill.—Since the opening of the Chicago branch of the American Motorcycle Company at 1536 Michigan avenue, early last month, business has been so voluminous that Manager Greene has found it necessary to order shipments of fifteen machines a week to meet the demand.

"Business during show week exceeded all expectations," said Mr. Greene. Indications are that we will outgrow our present Chicago headquarters before the end of the selling season. Chicago has been made the western distributing point for the M. M. machines."

AN important New York agency is that of J. C. Foley, located at Jerome avenue and 162d street. This depot is just at the end of the McComb's Dam Bridge, so-called, over which so many motorcyclists and automobilists pass on their way to the country. Foley has been there for years. He is a thoroughly practical mechanic and has a well equipped place. He is agent for Indian, Thor and Reading Standard. On the way out into the country, or on the way back after a return trip, if you need things in the motorcycle line, drop in and see Foley.

AURORA, Ill.—George W. Sherman, sales manager of the Aurora Automatic Machinery Company, reports that the motorcycle industry, so far as the Thor is concerned, is advancing by leaps and bounds. Every day from five to ten new agents are being booked, while in the factory a force of five hundred men is working on motorcycles.

THE business of selling "Good Tires" has increased so rapidly of late that Morgan & Wright of New York have been compelled to move from their old location at 214 West Forty-seventh street into more commodious quarters. They are now located at 1849 Broadway, where they will handle an even more complete line of "good" rubber goods than before.

"Whipple's Bargain"

BULLETIN No. 3

Right now is the time to buy second-hand machines. The finest list of bargains in the country is contained in Bulletin No. 3. Prices from $45 up. We sell new or second-hand motorcycles on easy payment plan.

Send for our Standard Price List of accessories, tools and [illegible] It is alphabetically arranged for ready reference.

WHIPPLE THE MOTORCYCLE-MAN

[illegible] West Jackson Boulevard - - -Chicago, Ill.

A FIVE YEAR GUARANTEE

On all PFANSTIEHL MOTORCYCLE COILS

The Leading coil, Standard equipment with discriminating Manufacturers. Reasonable prices

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NEW 20 PAGE CATALOG NOW READY

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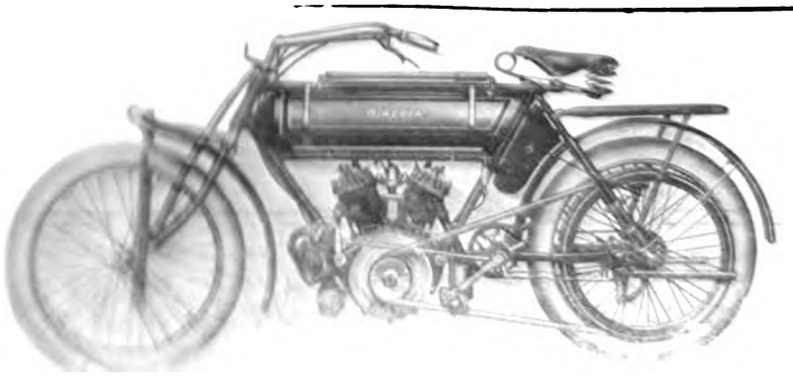

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5 H. P. and 8 H. P.

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Spring Forks

Speed 55 to 65 miles an hour

Double Grip Control

Price 5 H. P. complete $325.00

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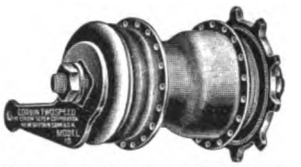
Corbin Duplex

Coaster Brake Model 8

Corbin Two Speed



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Ask for
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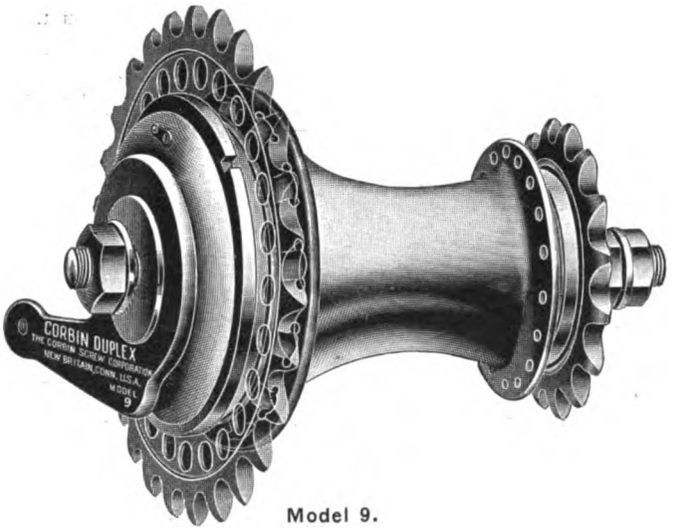
Built Throughout for Motorcycle Use.

½ inch Axle. Larger Bearings, giving longer life.

The Inside Diameter of the Brake Drum is 3 Inches, with Brake Shoes ½ inch wide, giving double the Braking Surface of Any Other Model.



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Any size sprocket, either ⅛ or 1 inch pitch.

Model 9 is 5⅜ in. long outside of cones $1^{15}/_{16}$ chain line.

Model 9A is 6⅜ in. long outside of cones 2¼ chain line.

Made for either Belt or Chain Drive Motorcycles.

Heavy Front Hub to match.

Complete Catalogue on Request

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Hub Model 26.

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Licensed Coaster Brake Manufacturers

The Corbin Screw Corporation, HIGH STREET **NEW BRITAIN, CONN.**

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Buy; Sell; Exchange. Two Cents a Word. Cash With Copy

FOR SALE.—1907 Yale. Just out of shops. $100. ½h. electric motor, 1 phase, 110 volts, 60 cycles, $45. Wm. Thul, Ames, Iowa.

WANTED.—Sidecar, for twin R-S, castor-wheel, 2½ inch tire preferred. E. W. Gardner, M. D. Hamilton, Ill.

FOR SALE OR EXCHANGE.—One Columbia motorcycle, Model B; wanted good typewriter; write for particulars. A. A. Jordan, 264 Lumpkin, street, Athens, Ga.

WANTED.—Armac, twin Indian or N. S. U. motorcycle. Will pay cash for 1908 machine. W. L. Hooker, Findley Lake, N. Y.

FOR SALE.—M. M. Special; excellent condition; a chance to get a late model of the best machine built at a bargain. Also Thor, V belt drive, very fast, in good shape, $60. C. H. O'Bannon, Lock Box D, Flemingsburg, Ky.

FOR SALE.—Columbia motorcycle in good order. 2¼ horsepower. Has been used very little. Write for particulars. Raymond F. Haviland, Hightstown, N. J. Box 262.

A DESIGNER, improver and technical expert with long and successful record as a salesman, competition rider and general advertisement and business man wishes to become connected with a first class manufacturer in any locality or would be a factory representative in good district. Technical, care of MOTORCYCLE ILLUSTRATED.

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AGENTS CARDS, ETC.

HEATH'S CHALLENGE BELTS—Auto or motorcycle; "V" or flat; any size or length; pliable as a string, grips like steel, non-slipping. State your needs, will send folder and price. Carried in stock by Thiem Manufacturing Company, Minneapolis, Minn.; the Auto Goods Company, Denver, Col.; Central City Rubber Company, Syracuse, N. Y.; C. L. Smith, Los Angeles, Cal. Manufactured by Heath, 288 Columbus avenue, Boston, Mass. Also New England distributors for Thiem motorcycles. Agents wanted.

SEVERAL good bargains in second hand motorcycles, from $65 up. Write for particulars. Carl U. Bush, Caldwell, N. J.

M-M AND R-S MOTORCYCLES—East End Cycle Co., Highland & Beitler, near Centre Ave., Pittsburg, Pa.

SAVE chain trouble by using Ball Bearing Fibre Idler, fits Indian, R-S, Thor and Light motorcycles. For cut and price address A. C. Mount, 1158 Washington street, Elizabeth, N. J.

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FOR SALE.—Set of 4 cylinders, pistons, rings, valves, all finished complete less inlet valves, 2⅝ x 3 inches; designed for four cylinder; can use for Twin or Single. Never used, first check for $50, or two for $30. Hilaman, Moorestown, N. J.

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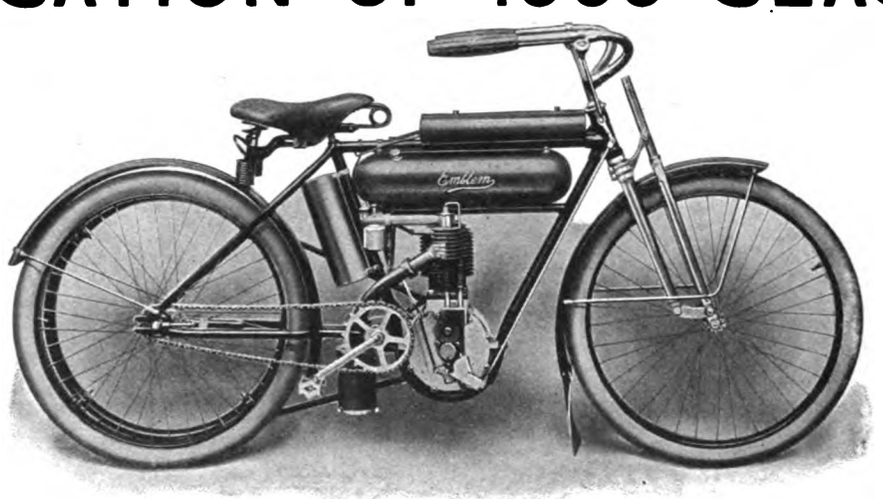

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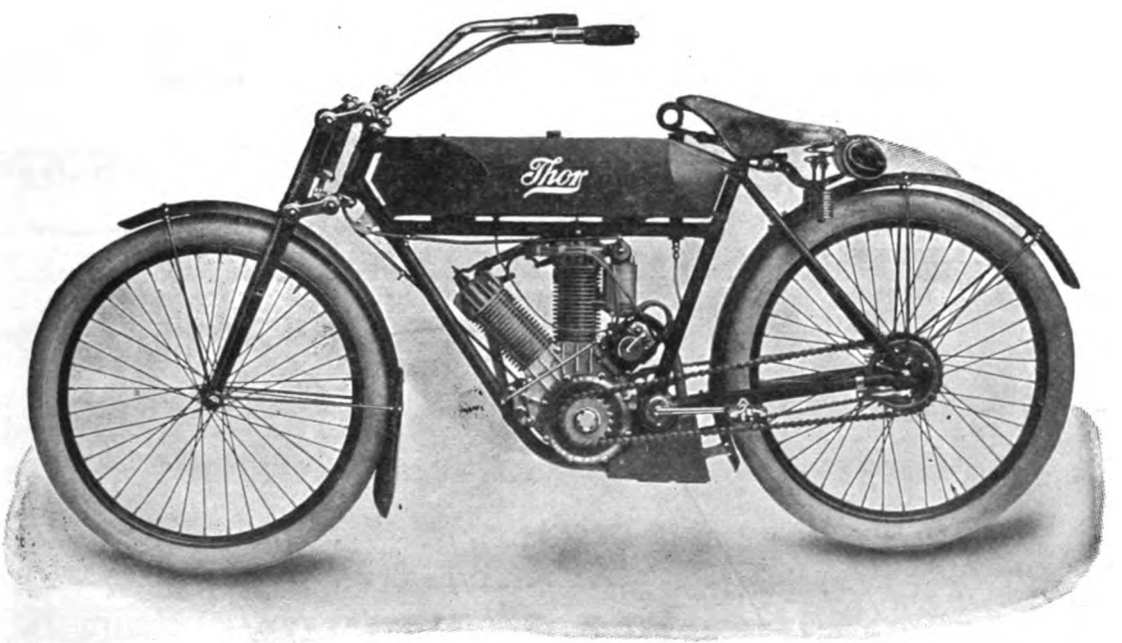
Places All Other Forms of Driving a Motorcycle in the Book of Ancient History



MR. DEALER. If you don't secure at once the Thor Agency the Historians will place you in that Book of Ancient News. Write to Dept. M for Agency Proposition.

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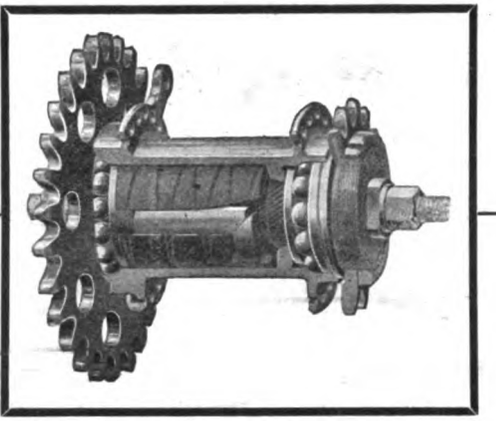

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The Eclipse Motorcycle Coaster Brake

Stands the Punishment

We have been making coaster Brakes for years and ought to know how.

THE 1909 ECLIPSE COASTER BRAKE

is strong, capable, simple in construction. Only eight parts—none of them small, delicate, easily broken or deranged.

Largest Braking Surface Ever Used

Write us for the whole story.

Eclipse Machine Company, Elmira, N. Y.

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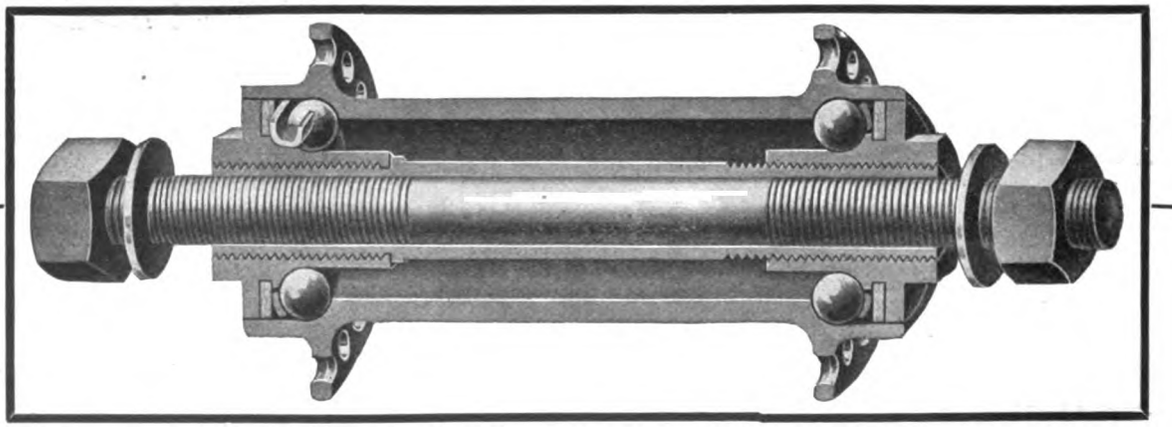

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Embody only the BEST of Everything

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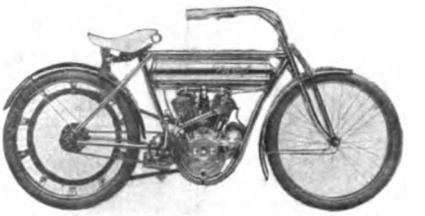

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Do you know all about the great

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COMFORT of the SPRING FRAME AND FORK,

DEPENDABILITY and convenience of the Automatic MECHANICAL Force Feed Lubricator,

SIMPLICITY of construction and operation of the LEVERLESS and JOINTLESS Handle Bar Control,

SAFETY of a BAND BRAKE,

and the many other exclusive and meritorious features, exemplified in these machines. If not, it is all contained in catalogs which are yours for the asking.

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Have You Noticed?

That most of the Two, Three and Four Cylinder Machines are equipped with Mesinger Cavalry Type Motor Saddles, because they have the Right Shape for Comfort and have Fibre Friction Shock Absorbers.

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Investigate the Mesinger Fibre Friction Shock Absorbers, which checks the ***Rebound*** and prevents the ***Sideway.***

Consider: If you insist you can have the Mesinger Cavalry or Standard specified as equipment without extra charge.

There is little difference in the price, but a large difference in Comfort.

"CAVALRY" No. 3
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The Mesinger Cavalry Saddle is made like a horse saddle—it prevents you from slipping and avoids that crampish hold of the hands on the handle-bars.

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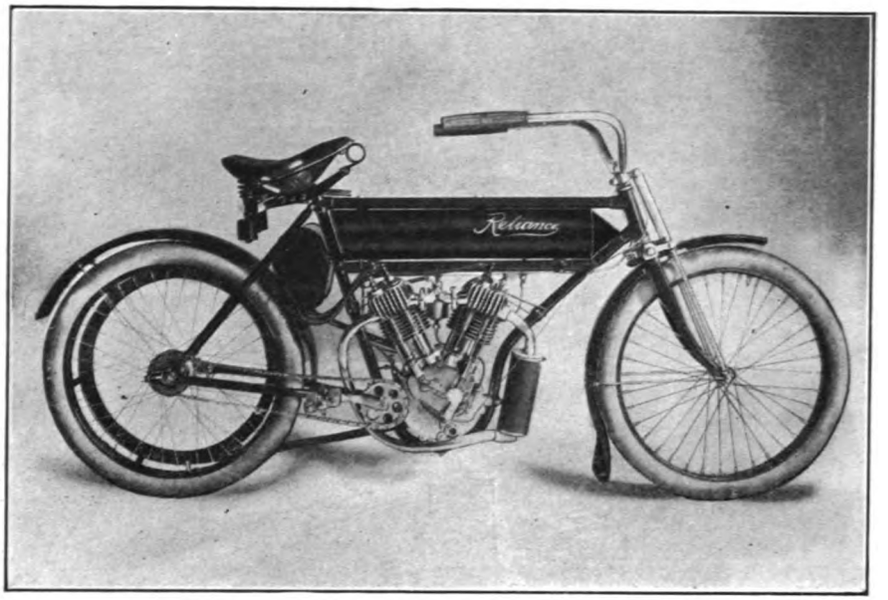

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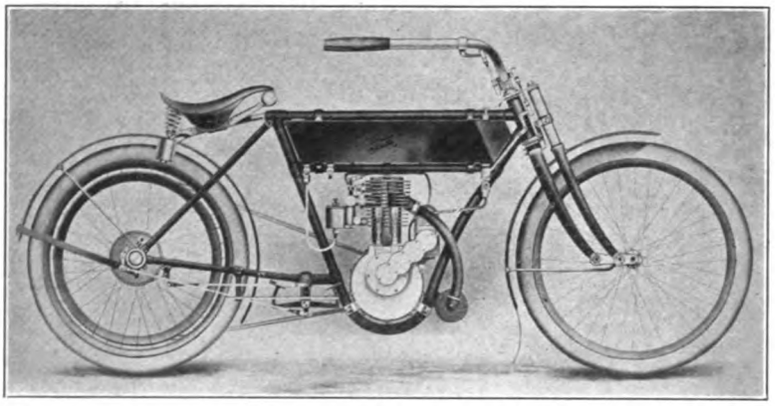

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Scores of motorcyclists discovered last year that

Morgan & Wright Motorcycle Tires

gave them perfect peace of mind regarding their tire equipment and left them free to enjoy their trips and tours as they never had before.

You can get them of most any dealer or you can have them put on any new machine you may purchase by mentioning it to the dealer or manufacturer.

Corrugated, Bailey or Basket Weave Treads. Single or Double Clinch.

MORGAN & WRIGHT, DETROIT

The NEW CONNECTICUT

MOTORCYCLE COIL

Thoroughly TESTED. Operated by Two Ordinary Dry Cells.

This, unlike other similar coils, is designed to be operated on three volts or two ordinary dry cells. The majority of coils, however, cannot be operated on less than three cells. Our principal aim in designing this coil was to devise a product which would be small in size and could be operated on two ordinary dry cells, inasmuch as this construction would materially reduce battery maintenance, be much neater in appearance, and require much less space, which at best is limited on a motorcycle.

In actual test these coils have given more mileage from two ordinary dry cells than could be secured by other coils operating on three special batteries. Furthermore, the coil produced more power on the high speeds and it was quite noticeable that the motors would start more readily in cold weather, due of course, to the exceedingly hot spark produced by this coil.

The internal construction is radically different from the average cycle coil, and we feel confident that in this coil we have solved the motorcycle coil problem so far as battery ignition is concerned. There is no question but what it is far superior to any motorcycle coil thus far placed on the market, and while the price may be a little higher, it will be found far cheaper in the long run. This coil is made up for both one and two cylinder engines.

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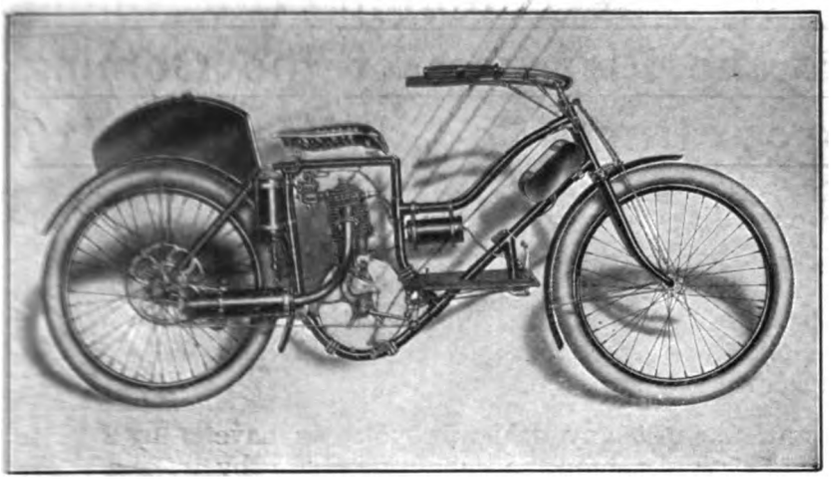

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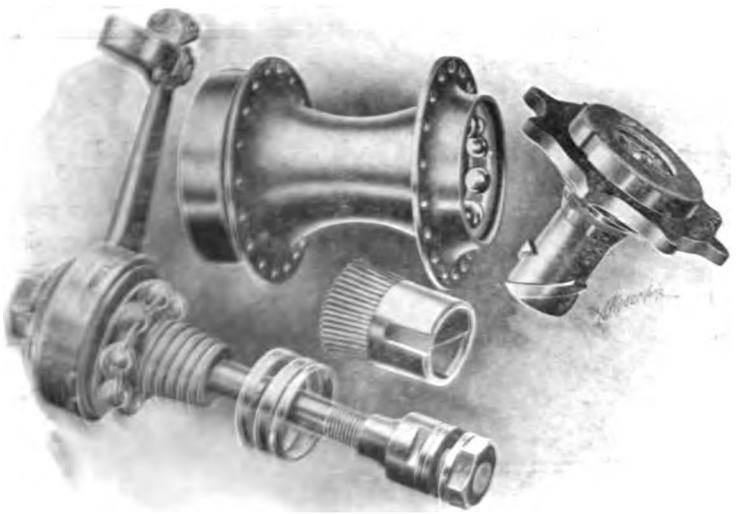
Ten Good Features

No Pedals, 60 inch Wheel Base, No Vibration, Form Seat, Hand Cranked Motor, Absence of Noise, Foot Board, Two Speed Transmission, Internal Expanding Brake, Free Motor.

DEALERS ENTHUSIASTIC. At the New York, Chicago and Boston Shows, Motor-Cycle dealers predicted a quick sale for our 1909 product. Only a limited number of agencies can be taken on this Season, and territory still open will be allotted to the best able to represent us. **Write for catalog and proposition.**

THE NEW ERA GAS ENGINE CO., 22 Dale Ave., Dayton, Ohio

You Can Depend Upon
The New Departure Motorcycle Coaster Brake



It is as strong as steel can make it, simple and few in its parts, well made, handsomely finished and the prime favorite of some of the best known motorcyclists.

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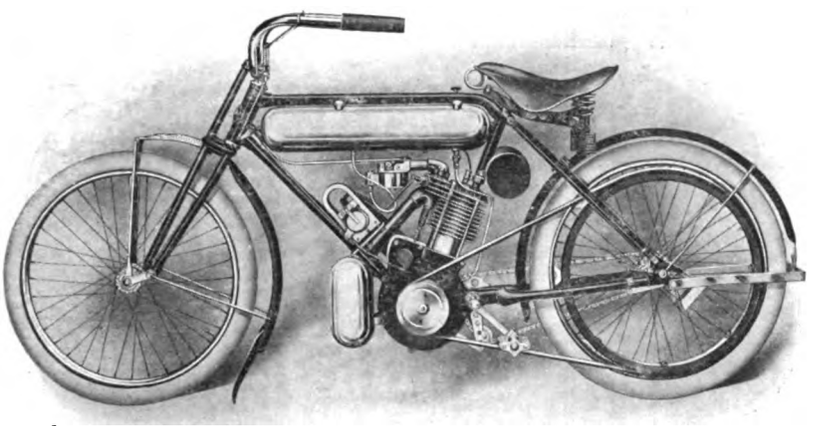

Power and stability together with ease of control, and those easy riding qualities so essential to complete Motorcycle pleasure, are all combined in

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Equipped with Bosch magneto, M. M. silent muffler, new engine construction, and dozens of other improvements.

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AMERICAN MOTOR CO., 716 Centre Street, Brockton, Mass.

Every Motorcyclist Should Know His SPEED AND MILEAGE

Both are accurately recorded by the Standard Speedometer, with Odometer attachment. Standard Speedometers are mechanically perfect. They are not, like so many others, simply automobile speedometers in miniature: instead, they are made strictly for motorcycle use, and they give satisfaction under all conditions.

CATALOGUE NOW READY
Booklet fully descriptive of our Speedometers sent on request.

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Three inch dial. Sixty mile scale.
Complete with shaft and fittings.
PRICE $15.00

This cut shows the Standard from the rider's position in the saddle. The dial is where it can most readily be seen without effort on the rider's part.

STANDARD SPEEDOMETER ATTACHED

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Note the direct shaft drive. No kinks or bends to cause trouble. Shafts furnished in any length to fit different machines.

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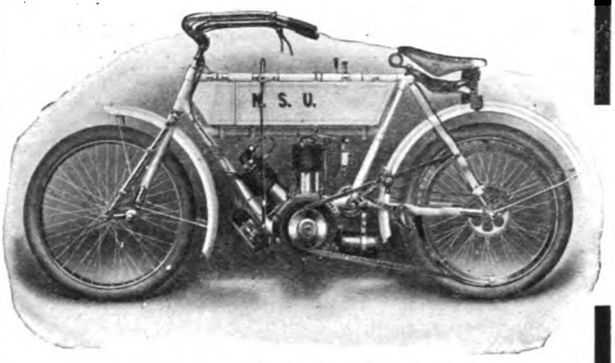

6 H. P. F. A. M. Model

TO crown the wonderful success that the N. S. U's made in the last Endurance Contest, that of winning

3 GOLD MEDALS

A 6 H. P. Stock F. A. M. Model won the 5 mile open at the New Orleans Mardi Gras, beating the nearest competitor by over a mile and a half.

THAT'S PROOF

Whether you want speed, endurance, or reliability you can't do better than to select the famous

NSU

So perfect, so simple, so mechanically correct that they prove most acceptable to exacting buyers.

WRITE FOR CATALOGUE "M"

N. S. U. MOTOR COMPANY
206 West 76th St., New York City

KOKOMO
OH!
KOKOMO
OH!

GIVE ME KOKOMO TIRES

And I and all My Relatives will be HAPPY

Kokomo Rubber Co.
South Main St. KOKOMO, IND.

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It does not matter what make of machine you ride this year; the standard ignition on all of the good ones will be by

BOSCH MAGNETO

If you purchase a new motorcycle insist that you get the genuine BOSCH MAGNETO. It will cost no more, and you will have the satisfaction of knowing your ignition is right. What is more, it will always be right — trouble is unknown with the BOSCH.

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TRIP CYCLOMETER
FOR MOTORCYCLES

"It's nice to know how far you go."

It also tells just what you ought to know regarding tires, batteries, gasoline consumption, etc.

ACCURATE, RELIABLE DURABLE

Send for Cyclometer Catalogue

Motorcycle Striker 25 Cents Extra

Price, each $2.00 **The Veeder Mfg. Co.,**
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Manufacturers of Cyclometers, Odometers, Tachometers, Tachodometer Counters and Fine Castings
Represented in Great Britain by Messrs. Markt & Co., Ltd., 6 City Road, Finsbury Square, London, E. C., England

You cannot buy a better motorcycle headlight than the new

Solar
Lamps-SHOW THE WAY

Such a thing does not exist. The Solar is the most perfect lamp of its size made. It has the genuine Solar Lens Mirror Reflector—the same as in Solar Automobile Lamps. The new generator has the largest capacity and the best system of gas generation on the market.

Write us for booklet describing our motorcycle outfit--it is yours for the asking.

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TWO FACTORIES:
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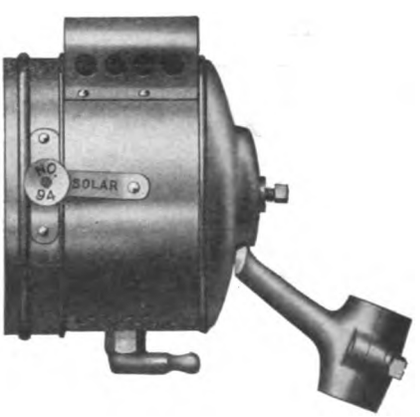

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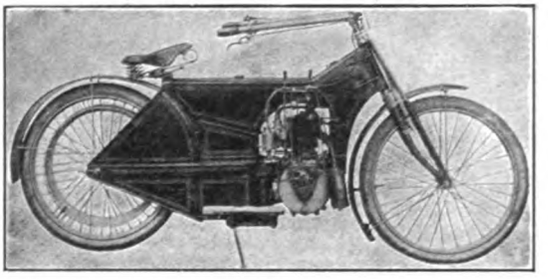
Minneapolis, Minn.—Empire Tire & Rubber Co.

THE SENSATION OF THE SHOWS



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MIDGET BI-CAR

The Most Comfortable Motorcycle
Ever Produced. Built Like a Car

Three types shown: Single Cylinder, Twin Cylinder and Two-Speed Machine.

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NOTICE TO DEALERS
Write us for agents' proposition, as we have some desirable territories open

WALTON MOTOR CO., Inc.
1 Broadway, Lynbrook, L. I., N. Y.

CURTISS Double Cylinder Motorcycles were FIRST IN AMERICA

They're still first in everything

First in Speed

World's Record (61 cu. in.) 1 Mile 46 2-5 sec.

First in reliability

Only DIAMOND MEDAL 1907 F.A.M. Endurance run. Hightest Award "Both Classes" 1908 F.A.M. Endurance Run.

First in the Double Bar Frame, the long Wheel Base, the Vertical Engine with stripped cylinders, the Anti Friction Bearings, V-Belt and numerous other so-called "new" which we have used for years.

Get the original and Know you're right.

The 1909 models represent a combination of speed, power, strength, durability and simplicity never before equalled.

Send for Advance Circular and further particulars.

G. H. Curtiss Mfg. Co., Hammondsport, N.Y.

The 1909
Harley-Davidson

BETTER THAN EVER

WON
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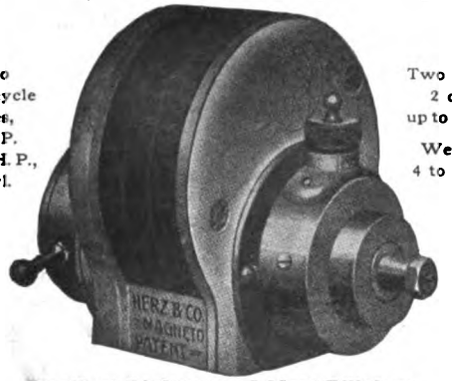

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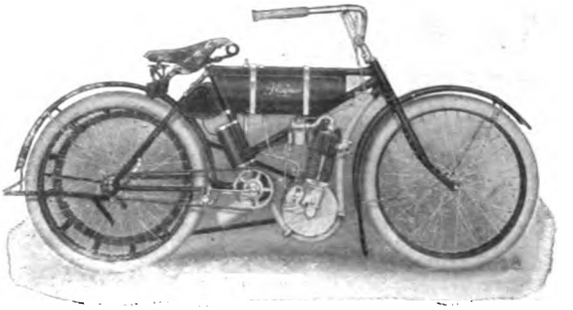

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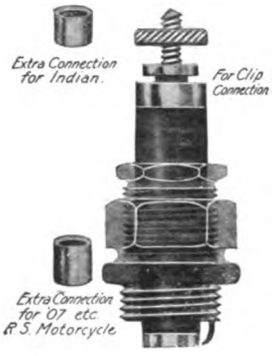

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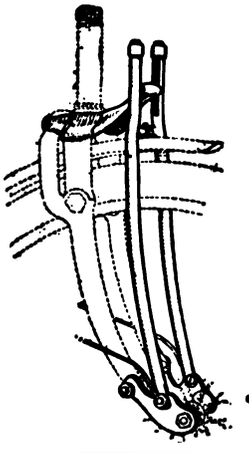

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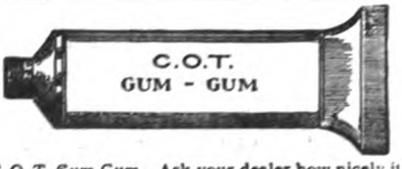

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MOTORCYCLE ILLUSTRATED

Vol. IV. No. 7 April 1, 1909

PUBLISHED BY THE MOTORCYCLE PUBLISHING CO., 299 BROADWAY, NEW YORK CITY

RECORDS ANNIHILATED

A Whole Series of New Figures As a Result of Remarkable Riding at Los Angeles and Daytona.

NOTABLE PERFORMANCES MARK OPENING OF SEASON.

Distance.	*Rider.*	*Los Angeles.*	*Daytona.*	*Old Record.*
Kilometer, Amateur	Goerke	.....	0.27 4-5	.....
One Mile, Professional	De Rosier	0.47 4-5	.....	0.56
One Mile, Amateur	Stubbs	.....	0.43 2-5	0.46 2-5
Two Miles, Professional	De Rosier	1.40	.....	2.05
Three Miles, Professional	De Rosier	2.28 2-5	.....	3.01 2-5
Three Miles, Amateur	Huyck	2.37 2-5	.....	2.48 3-5
Five Miles, Professional	De Rosier	4.09 2-5	.....	5.25
Five Miles, Amateur	Huyck	4.11 2-5	.....	4.38 3-5
Five Miles, Amateur	Goerke	.....	3.30 1-5	4.38 3-5
Ten Miles, Amateur	Chapple	.....	8.57	.....
Twenty Miles, Amateur	Chapple	.....	17.25 1-5	.....
Sixty-nine Miles	Goerke	.....	58.25 4-5	.....

This performance easily beats the English hour record of 68 miles, 1,380 yards.

THE past fortnight has been epochal in motorcycle history; in fact, in the speed annals of the world. Never before has there been such a series of record-breaking performances as those which have just taken place on the Prince Coliseum in Los Angeles and on the beach at Daytona. The figures are all but incomprehensible. Not even the most optimistic had looked forward to such utter annihilation of the old records, during the very first two weeks of the racing season. However, it was easy for speedsters like De Rosier, Huyck, Goerke, Chapple, Stubbs, Hedstrom and Wray, the former two in the West and the others on the Florida coast, to tear to pieces professional and amateur records for the mile, two miles, three miles, five miles, ten miles and, finally, for the hour, Goerke beating the English record after he had ridden for only 58 minutes and 25 4-5 seconds, he having ceased riding on account of darkness.

All in all, the fastest going was done by Goerke, in Florida, when he travelled five miles in the phenomenal time of three minutes thirty and one-fifth seconds, or at the rate of a mile in a little over forty-two seconds. To Stubbs, however, must be accorded the mile honors, he having bested Glen Curtiss's figures of 46 2-5 seconds by no less than 3 seconds. The kilometer record is held by Goerke, in addition to the five-mile and one-hour records, while Chapple stands high among the ten-milers with a record of 8 minutes 57 seconds to his credit, five miles one way, a turn and back again.

Just as extraordinary as the riding in Daytona was that of De Rosier and Huyck on the three and one-half lap track on the Pacific Coast. The old records simply look sick by comparison. The professional mile was cut from 56 to 47 4-5 seconds, while De Rosier reduced by twenty-five seconds the old two-mile record, and by fully one minute, 15 3-5 seconds his former figures for the five-mile course. Huyck made mince-meat of the old figures for the three and five miles, cutting these by 11 1-5 and 27 1-5 seconds, respectively. At Daytona, Chapple defeated Goerke after a close race, and incidentally hung up new figures, 17.25 1-5 for twenty miles. All of the record-breaking, both at Los Angeles and Daytona, was done on Indian machines.

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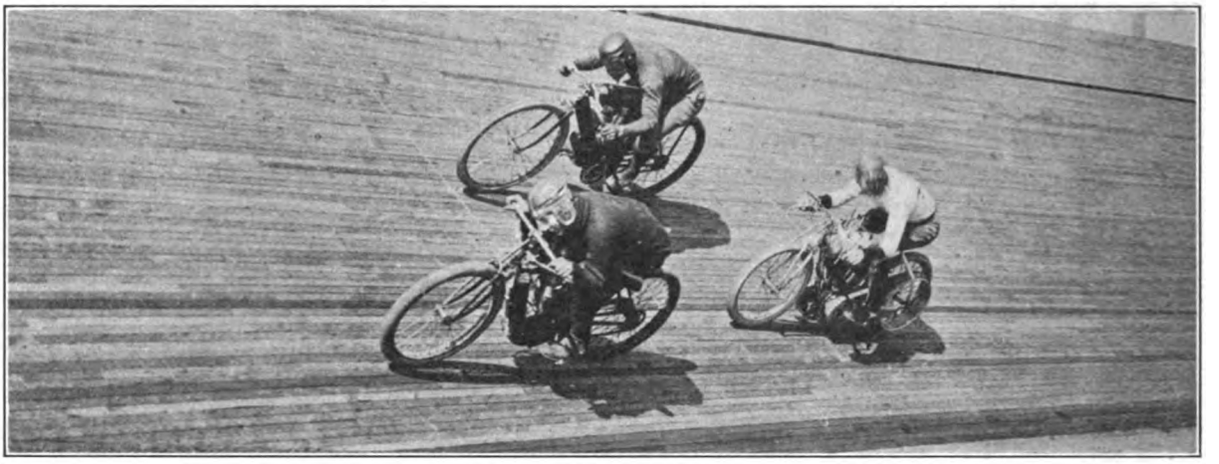
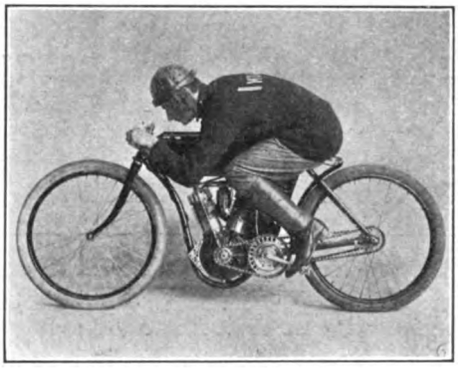
Travelling at the Rate of Seventy-five Miles an Hour at Los Angeles





DeRosier and Huyck

AT DAYTONA

MOTORCYCLE PROMINENT.—As in several other recent cases the motorcycle races all but overshadowed the automobile events. The riders at Daytona were A. G. Chapple, of New York; Walter Goerke, of Brooklyn; William Wray, of New York; Robert Stubbs, of Birmingham, Ala.; Eugene Gaestel, of New York, and Oscar Hedstrom, Springfield, Mass. Trials of the beach indicated that all records would be shattered.

One-Mile Record Broken.—The last event of the first day's program was the one-mile record trials for motorcycles of 61 cubic inches displacement. The previous record, held by G. H. Curtiss, was 46 2-5. The condition of the tide prevented the running of the other events scheduled for the first day, and they were accordingly postponed. W. Wray made the best time in the mile trial, covering the distance in 45 seconds flat, but as his machine, a 14-h. Simplex, is over the F. A. M. limitation of 61 cubic inches, his ride cannot be classed as a record, though it will stand as a notable performance. W. Goerke covered the mile, in two trials, in 45 1-5 seconds and 47 4-5, respectively. Robert Stubbs' two trials were made in 46 2-5 seconds and 48 3-5, respectively; A. G. Chapple, one trial, in 50 seconds, and Eugene Gaestel, one trial, in 56 3-5 seconds. All the competitors were mounted on the new 7-h. Indian, except Gaestel, who rode an N. S. U.

Five and Ten Miles.—The second day of record breaking was inaugurated by O. Hedstrom, on the famous Hot Shot, with which he clipped two-fifths of a second from Wray's time. The five-mile record trials and the ten-mile race were both decided in fine time. W. Goerke made the best time in the five-mile

The Los Angeles Track Viewed from the Coliseum's Centre

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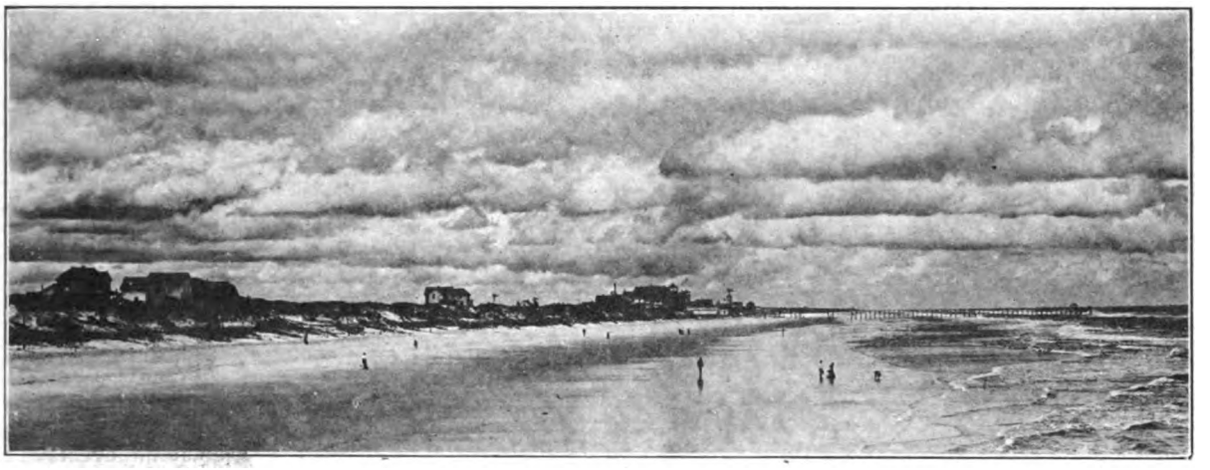
The Ormond-Daytona Beach, As Viewed from the Ocean Side



trials, 3 minutes 30 1-5 seconds, Robert Stubbs following, in 3 minutes 33 seconds. Chapple covered the distance in 3.52 and Gaestel in 4.28. Goerke's time establishes a new world's record for five miles. The ten-mile race was won by A. G. Chapple in fine style, in 8 minutes 57 seconds, on a 7-h. Indian; Walter Goerke was second and William Wray third.

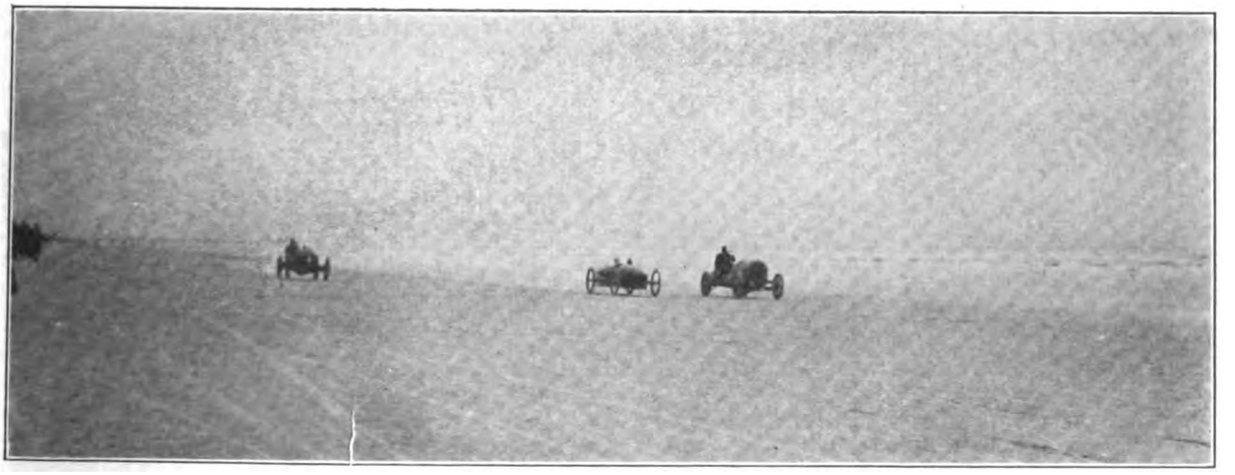
One-Hour Record Broken.—With most of the high-powered automobiles out of commission the motorcyclists saved the situation Wednesday, for the attendance was just as large as on the previous days, nor was the audience disappointed. Records went sky high. In his attempt to beat the record of 68 miles, 1,380 yards, made on the Brooklands track in England recently, Walter Goerke, of Brooklyn, covered sixty-nine miles in 58 minutes 25 4-5 seconds, and would have covered almost two miles more if he had kept on at this rate for the full hour. This young trolley dodger gained more fame by lowering the world's record for the kilometer to 27 4-5 seconds. Another world's record was that made by Robert Stubbs, who was timed a mile in 43 2-5 seconds against the previous record of 45 1-5 seconds, made the day before by Goerke. Chapple covered a mile in these trials in 43 3-5 seconds.

In the kilometer trials, won by Goerke, the next best time was made by Robert Stubbs, who covered the distance in 28 1-5. In the one-hour race, to beat the Brooklands (England) track record, Chapple was second, followed by Gaestel and Stubbs.

The twenty-mile event was won by A. G. Chapple, of New York, who beat out Walter Goerke, of Brooklyn, N. Y., after a neck and neck race. The time was 17 minutes 25 1-5 seconds. The summaries:

One mile, amateur—Won by Walter Goerke, Brooklyn, N. Y., 7-h. Indian; time, 45 1-5 seconds. Robert Stubbs, Birmingham,

Goerke and Chapple



Smooth Going on the Hard Beach at Daytona

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The Indian Team at Daytona

Ala., 7-h. Indian, second, 46 2-5; A. G. Chapple, New York City, 7-h. Indian, third, 50; Eugene Gaestel, New York City, 6-h. N. S. U., fourth, 56 3-5.

Five miles, amateur—Won by Walter Goerke, 7-h. Indian, time 3.30 1-5 (world's record); Robert Stubbs, 7-h. Indian, second, 3.33; A. G. Chapple, 7-h. Indian, third; time, 3.52.

Ten miles, amateur—Won by A. G. Chapple, 7-h. Indian, time 8.57; Walter Goerke, 7-h. Indian, second.

One-mile time trial, professional—Won by Oscar Hedstrom, Springfield, Mass., 14-h. "Hotshot"; time, 44 3-5.

Kilometer, amateur—Won by Walter Goerke, Brooklyn, N. Y., 7-h. Indian, time 27 4-5 (world's record); Robert Stubbs, Birmingham, Ala., 7-h. Indian, second, 28 1-5; Eugene Gaestel, New York City, 6-h. N. S. U., third, 34 1-5; A. G. Chapple, New York City, 7-h. Indian, fourth, 38 1-5. Winner's time, world's record.

Kilometer time trials, freak machines, flying start—Best time by Oscar Hedstrom, Springfield, Mass., 14-h. Indian, time 31 2-5; W. H. Wray, New York City, 14-h. Peugeot, second, 33 2-5.

One-hour record, amateur—Won by Walter Goerke, Brooklyn, N. Y., 7-h. Indian, 69 miles; time, 58.25 4-5 (world's record). A. G. Chapple, 7-h. Indian; Robert Stubbs, 7-h. Indian; Eugene Gaestel, 6-h. N. S. U., also started but failed to finish.

Mile, amateur—First round, Robert Stubbs, 7-h. Indian, 44; A. G. Chapple, 7-h. Indian, 45; Walter Goerke, 7-h. Indian, 45 1-5; Eugene Gaestel, 7-h. N. S. U., 58 1-5. Second round, Stubbs, 43 2-5; Chapple, 45 4-5; Goerke, 44 4-5; Gaestel, 49 1-5.

Mile time trials, freak machines—First round, W. H. Wray, 14-h. Peugeot, 44 4-5; Oscar Hedstrom, 14-h. Indian, 47 3-5. Second round, Wray, 46 3-5; Hedstrom, 47 2-5.

One-mile race, amateur; run in heats; scoring on point system; no time taken—First heat won by Goerke; Robert Stubbs, second; Chapple, third; Gaestel, fourth. Second heat won by Stubbs; Goerke, second; Chapple, third. Third heat won by Chapple; Goerke, second; Stubbs, third.

Final score, Goerke, 7 points; Stubbs, 6 points; Chapple, 5 points.

Twenty-mile, amateur—Won by A. G. Chapple, 7-h. Indian; Walter Goerke, 7-h. Indian, second. Time, 17 25 1-5 (world's record).

Robert Stubbs

AT LOS ANGELES

DE ROSIER THE STAR.—Jake De Rosier was easily the star of the big event at Los Angeles. De Rosier showed that he can give any man, with the exception of Derkum, a good handicap and then win. This long, lean rider, who has cleaned up the best men in the East, was brought to Los Angeles to meet the fastest man in the West. He was pitted against the undefeated Paul Derkum, on a Reading Standard. De Rosier won.

Amateur Events.—In the amateur events Freddie Huyck, on an Indian, and Charles Balke, on a Thor, were the particular stars. Here again the East was pitted against the West, and here again, though the Los Angeles boy snatched one victory, honors went to the visitor. Huyck rode into two world's records in the five and the three-mile amateur events. His riding was sensational, and this lad, who is a near-professional, showed himself to be a topnotcher in the art of buzzing along at the fearful pace necessary to win.

Fast and Safe.—That the track is fast there is no question. It appears to be safe. The riders did not leave the boards. If they had, it can only be conjectured what would have happened. An interested onlooker, figuring the velocity attained by De Rosier, proved to his own satisfaction that if the rider had left the track at the speed he was going, machine and man would have shot 100 feet into space.

The amphitheater presented the appearance of a country fair. Both grand stands were sold out. There was only standing room when the races were started.

Record-Smashing Thrills.—De Rosier, riding his double-cylinder, 7-h. Indian, was the first rider to smash a world's record when, in the initial qualifying heat of the five-mile professional open, he covered the course of two miles in 1 minute 40 seconds flat. His best previous time for the distance was 2 minutes 5 seconds.

E. Lingenfelder, on a 4-h. Thor, and A. Mitchell, on a 6-h. N. S. U., lined up with De Rosier, and the trio got away in a bunch. The Frenchman shot to the front, quickly increasing his lead to over a lap. At the end of the fourth circle Mitchell withdrew, and Lingenfelder was beaten by a lap and a half.

Paul Derkum and T. Samuelson furnished the thrills in the second qualifying trial, and the time was but a fraction of a second slower than De Rosier's. Samuelson pushed Derkum hard till the fifth lap, and lost the heat by forty yards.

Freddie Huyck established a world's record in the amateur five-mile handicap, which he won from Balke and Graves in the remarkable time of 4 minutes 11 2-5 seconds. The best previous time was 4 minutes 38 3-5 seconds. Huyck had to lap his rivals twice, according to the handicap, to win the honors.

Crowd Breathless.—Huyck passed Balke on the seventh lap in an exhibition of riding that caused the great crowd to stand breathless in anticipation of an accident. He kept increasing his lead, and again on the fourteenth lap passed the fighting Balke. The Los Angeles boy was handicapped in riding a single-cylinder machine, and he could not overtake the more powerful Indian. Graves quit early in the race.

Again, in the amateur three-mile open, the Chicago rider showed his rear tire to the western space eaters. His

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sole opponent was Charles Balke, who was again handicapped by using a single cylinder, and his rival gradually increased his lead, winning in 2 minutes 37 2-5 seconds, and setting a new world's mark by beating the best previous time for the distance of 2 minutes 48 3-5 seconds.

Three-Mile Open.—The professional three-mile open brought out four starters—De Rosier, Derkum, Mitchell and Lingenfelder. The first getaway was a failure. De Rosier was too anxious, and Ruess called the bunch again to the line. Side by side the two raced, covering the first mile under 1 minute 40 seconds. On the fourth lap De Rosier shot to the front by a length, and as Derkum tried to regain his advantage on the back curve he bumped the rear wheel of the flying Frenchman. The shock was almost fatal. Paul shot like a flash to the top of the curve and barely missed losing his balance. De Rosier was never headed after that, and won by a margin of twenty yards. The time was 2 minutes 28 2-5 seconds, which bettered De Rosier's previous record of 3 minutes 1 3-5 seconds by over half a minute.

Mile in 47 4-5 Seconds.—The fastest exhibition, although not the most exciting one, was the one-mile dash against time by De Rosier. Without the press of competition, the crowd failed to realize his terrific speed. After warming his engine, he gave Ruess the signal and opened wide. Hugging the baseboard of the oval he leaned close to his machine and fairly flew around the laps. In considerably less than a minute he covered the three and a half laps, making the course in 47 4-5 seconds, a world's record. De Rosier's best previous time for the mile was 52 seconds, on a dirt track, and 56 seconds on a five-lap board track.

Scratch Entries' Struggle.—Charles Balke established yet another world's record for a single-cylinder machine in the amateur five-mile handicap, although he finished third to Kohl and Seymour in the race. Fred Huyck and Balke were at scratch, and Seymour and Graves each had two laps handicap, while Kohn had five laps. The feature of the race was the struggle between the two scratch entries. Huyck almost fell on the tenth lap, when he left the embankment for a brief second, and wobbled at a fearful speed across the runways at the base of the track. The momentary mishap cost him the race, for Balke passed him and maintained his lead to the finish, beating Huyck to the tape by ten yards.

Seymour, Graves and Knappe, the three local favorites, were the makings of the opening event, a four-mile handicap for amateurs. Seymour rode from scratch, and Knappe had two laps and Graves one lap handicap. Seymour's engine was missing as he passed on the second lap, and he slowed to half speed. Knappe rode like a fiend and gained a half lap on Graves at the end of the second finished strong in the good time of 5 minutes 20 4-5 seconds. The record-breaking machines were all equipped with Indianapolis G & J tires.

Summary of Events:

Four-mile amateur handicap, for single-cylinder, fully-equipped stock machines—Won by Erwin Knappe (Indian), handicap two laps; Raymond Seymour (Reading Standard), scratch, second; M. J. Graves (N. S. U.), handicap one lap, third. Time, 5 minutes 20 4-5 seconds.

Five-mile professional, open, first qualifying heat, two miles—Won by Jake De Rosier (Indian); E. Lingenfelder (Thor), second; A. Mitchell (N. S. U.), third. Time, 1 minute 40 seconds. World's record.

Second qualifying heat, two miles—Won by Paul Derkum (Reading Standard); T. Samuelson (Indian), second. Time, 1 minute 41 2-5 seconds.

Final heat, professional, five-mile open—Won by Jake De Rosier (Indian); Paul Derkum (Reading Standard), second; E. Lingenfelder (Thor), third. Time, 4 minutes 9 2-5 seconds. World's record.

Amateur five-mile handicap, for double-cylinder machines, limit 61 cubic inches piston displacement—Won by Fred Huyck (Indian), from scratch; Charles Balke (Thor), handicap two laps, second; M. J. Graves (N. S. U.), handicap one lap, third. Time, 4 minutes 11 2-5 seconds. World's record.

Professional three-mile handicap, for double-cylinder machines, limit 61 cubic inches piston displacement—Won by Jake De Rosier (Indian), from scratch; Paul Derkum (Reading Standard), from scratch, second; E. Lingenfelder (Thor), handicap two laps, third. Time, 2 minutes 28 2-5 seconds. World's record.

Amateur three-mile open, double-cylinder machines, limit 61 cubic inches piston displacement—Won by Fred Huyck (Indian); Charles Balke (Thor), second. Time, 2 minutes 37 2-5 seconds. World's record.

One mile exhibition against time—Jake De Rosier (Indian). Time, 47 4-5 seconds. World's record.

COMING EVENTS

Apr. 4—Opening of Newark Velodrome.
Apr. 4—Cincinnati Club's First Run.
Apr. 11—Opening of Clifton Stadium.
Apr. 18—First Run of Chicago Club.
Apr. 19—Massachusetts Run.
Apr. 25—Spring Endurance Run of the Linden Motorcycle Club.
Apr. 29—Indiana Club's Endurance Run.
May 1—Opening of Salt Palace Track, Salt Lake City.
May 9—New York Club's Run to Southampton and Patchogue.
May 29—Harlem Club's Run.
May 30—Los Angeles Club Run.
May 30—Fisher Trophy Run, Chicago.
May 30—Beverly, Mass., Club Hill Climb.
May 30—Proposed Opening of Chicago Track.
May 30-31—New Jersey Club's Run.
May 30—Fort George Hill Climb.
May 30—Chicago Club's Gymkhana.
June 3—New York Club's Second Trial.
June 8—Danville, Ill., Hill Climb.
July 5-10—English Reliability Trials.

THE F. A. M. log-book, that *sina qua non* to enthusiastic riders, is out. As is generally known, the book is not for sale, the advantage of possessing one being one of the many benefits that accrue to member of the Federation. The volume consists of eighty pages of trip tables, with room for date, place of start, destination, names of places passed through, distance and time between each, condition of road and weather, causes and duration of stops, and memoranda of expenses, and interesting incidents. These pages, when filled in, give the rider a complete record for the season.

VICE-PRESIDENT BUFFINGTON, of the F. A. M. Eastern District, has named four members for the district competition committee, as follows: Dr. C. J. Berrick, Buffalo, N. Y.; Percy Drummond, Newark, N. J.; Harold H. Brown, Boston, Mass., and C. J. Swenson, Newport, R. I.

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THE A. B. C. OF MOTORCYCLING

Part III. Magneto Ignition—Detailed Descriptions of the Bosch, Herz and Eisemann.

ROLLAND C. LAURIE

IN this article I shall be forced to be technical in my descriptions, as it seems to be the only way of dealing intelligently with a subject such as magneto ignition. I shall do my very best, however, to deal with the matter simply and in the absence of diagrams will be as concise as possible. First, let me emphasize the fact that magneto ignition *is the best,* for the reason that it reduces the wiring to a minimum and generally makes for extreme reliability. In the case of a breakdown the rider of a magneto-ignition motorcycle need hardly trouble about looking for the fault in the magneto, as that is the last place where a defect is likely to show up. It will be almost unnecessary for me to point out that all racing automobiles are fitted with magneto ignition, and, as reliability is absolutely essential in a racing machine, a magneto is the "sine qua non" to attain this end. It is my belief that the battery will gradually disappear from motorcycle construction, remaining perhaps in the cheaper-priced models.

I must warn the magneto novice against taking the magneto machine to pieces to "have a look at the works," as all the parts that ever need attention or adjustment are so arranged as to be readily accessible. Therefore the rest need not be disturbed, for were these parts taken to pieces, no man unfamiliar with the apparatus would succeed in properly reassembling them. However, the three magnetos in most common use are the Bosch, Eisemann and the Herz. I shall try to deal with these as collectively as possible and later mention a few adjustment details, etc., of each. The general advantages of the magneto are these:

First, the current is produced by transforming mechanical into electrical energy; secondly, the magneto does away with the make-and-break mechanism on the motor, thus lessening the number of moving parts, but still producing the spark between the electrodes of the spark plug; third, the sparks produced are much hotter than with the battery system and thus a poorer mixture can be ignited or more complete combustion can be effected with a good mixture; fourth, the wiring is reduced to a minimum, as, apart from the cable to the spark plug, no wiring is used. This, of course, lessens the chance of breakdown to a degree.

Between the pole shoes of two steel magnets which form a strong magnetic field, an armature rotates. By this rotary motion a current is produced in the armature winding. At its maximum this current produces a spark. This armature is wound in two sections, the primary consisting merely of a few turns of heavy wire and the secondary of many turns of very fine wire. The current is produced in the primary winding by the rotation of the armature, and by the interruption of the primary circuit by means of a contact breaker a high tension current is produced in the secondary wiring, which, as the contacts "break," causes a spark to jump the points of the spark plug.

As the spark is properly produced only when the armature is in a certain position, and as the spark at the plug has to occur at a certain time, it is essential that the armature should be driven at the same speed as the engine for two-cylinder machines and at half crank-shaft speed for single cylinder engines. The contact breaker is fitted at the end of the armature spindle and a carbon brush is used for a distributor which has metal segments for making contact for multicylinder machines. The gear wheel which carries the carbon brush revolves at the same speed as the cam shaft of the motor, or as mentioned before in the case of single cylinders. The contact breaker has the usual platinum-tipped screw, and bearing on this screw is a bell-crank lever, which is kept up to its work by a spring. As long as the bell-crank lever is in contact with the platinum screw, the primary wiring is short circuited, but when this lever is rocked, contact is broken and the circuit is interrupted. This is effected twice during each revolution of the armature by steel segments which depress one end of the contact breaker lever which carries the other platinum screw. Thus every time the contact-breaker lever is depressed these two screws break the circuit; yet this separation of the platinum points must be very slight to be correct. An adjustment screw is provided to take up the wear. It may be noted that the armature spindle needs oiling about once every two weeks if the machine is in constant use, and a small reservoir, marked "Oil," is generally provided for this. Use the very best machine oil for this purpose. The distributor gear-wheel spindle has a wick for oiling, leading from the reservoir on the top of the rear end place; this also is marked. The other parts of the magneto need no oil. The contact breaker runs without it and oil tends to "pit" and burn up the contacts.

Magnetos are driven by gear or geared shaft and also by chain. This mechanism is protected in a case and needs only occasional oiling. Now, as has been shown, the spark occurs in the cylinder at the moment the contact points are separated by the cam. The magnets are fitted with an advance mechanism of the quadrant type, allowing displacement of about forty degrees, and it should be noted that, for starting purposes, the spark should be advanced about half way or more.

In the event of any novice at magnetos having occasion to "time" his ignition, he should push the lever as far as possible in the direction of rotation, looking from the driving end. In this position the ignition is fully retarded. Turn the motor by hand until the piston has gone about one-eighth down past the dead center. Turn armature of magneto until cam separates the platinum points and carbon brush makes contact and fix driving pinion or chain in this position, and thus, by moving the lever, the required advance in ignition can be given to the magneto.

The wick oilers should be cleaned every four months or so, according to use, by taking out the lower wick screws and washing wick in paraffin. Clean the carbon brush inside the make-and-break cover at end of the armature spindle every month or so with gasoline; the same with the platinum contacts. A jeweller's file may be used for facing up these occasionally, care being taken to leave the adjustment .05 mm. when contact lever is depressed—a gauge for this can be usually obtained from the makers, and it is a useful thing to have at hand. Cables should be overhauled occasionally, but if *good* wiring is used these will give very little trouble.

In the foregoing short description I have dealt as collectively as possible with the main features of the Bosch and Eisemann high-tension arc magneto machines, and to avoid confusion will not endeavor to trace any former construction of these two makes, in spite of the fact that these have been successful in operation. The Herz magneto is the same in theoretical design, but is practically somewhat dissimilar in construction, so I must deal with it separately. It is very light, and built on very unconventional lines. The horseshoe magnets are replaced by a V-shaped, cylindrical type, giving an all-enclosed field system. The magnet system is composed of several flat steel rings clamped together with the armature tunnel cut in them. The usual independent pole pieces are dispensed with and are formed from the tunnel-shaped soft iron

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extensions to which the field magnets are usually bolted. Thus the use of joints is eliminated, making for great efficiency. The whole construction is light and compact in every way.

The armature is of the usual shuttle-shaped pattern and can be rotated within one-tenth of a millimeter of the poles. The bearings are of the ball type fitted in cages. The contact breaker is also a slight departure from the conventional. It is detachable in a complete unit which gives great accessibility; it is fitted to the armature shaft by means of a small key way and feather. The carbon brush is fitted into the contact disc which presses up against a ring alongside the front ball race on the armature. The contact breaker itself is composed of three parts—a curved spring having a platinum contact at one end; a small block set slantwise, carrying an adjustable platinum contact, and a small hard fiber roller loosely centered on a pin. The roller is so set that if given a slight push at the edge it moves up the inclined plane of the steel piece just mentioned. In doing so it bears against the end of the spring and separates the contacts. As described in the other magnetos, the contact maker rotates with the armature and the fiber roller strikes the two steel segments in the same way that the bell crank and cam lever did in the other instances.

Finally, look to the magneto last if misfiring occurs. The fault generally lies in the spark plug, which may after a time short circuit by a small metallic bead forming on the metal of the plug points by the intense heat of the magneto spark. Again the plug points, or electrodes, as they are technically called, should be 0.4 mm. apart to give the best results. If the gap is too wide the spark will jump across the safety gap on the magneto instead of across the plug points; that is, of course, if the plug is screwed into place in the cylinder. If the plug is removed and tested on the cylinder the spark will jump across the points even if *they are* too wide apart; so don't get tripped up on this point. The plug may possibly "soot" from too rich a mixture; clean it and take care that the points are set correctly.

Often an ignition cut-out arrangement is provided with a magneto. Now if the machine stops suddenly (a rare occurrence) the fault might be traced to a short circuit in the low-tension cable to the switch. If irregular firing occurs, after the carbureter and the spark plug have been tested without result, have a look at the contact breaker by taking off the protecting cover. See that the center screw is tight, also that the steel segments are rigid and the platinums firm. Be sure that the opening between them, upon depression of the cam shaft, as described, is correct by the gauge and also that the platinums are clean.

In the next instalment I shall deal with running adjustments and the general care and upkeep of the motorcycle.

JOSEPH MERKEL came to New York the other day and made directly for Ovington and Kellogg's, principally with a view to appeasing the former's disquietude as to satisfying public demand for the Merkels; also to learn from the little racer of other seasons whether he had reached any decision as to his riding this year. Mr. Merkel assured the F. A. M. President that he would rush his order at the factory, and that the eager prospective riders of the Merkel would soon be in possession of their machines. Mr. Merkel reported a phenomenally large demand from all parts of the country, and expressed himself as highly pleased with the season's outlook.

As for Kellogg, he practically admitted that he would be seen on the track again this season. In that event, Kellogg will ride the Merkel and Excelsior machines.

Never neglect an opportunity to push a good roads movement.

Can You Beat This?

THE American Motor Company is justly proud of the remarkable record made by C. G. Atwood, of Roxbury, Mass., on an M. M. machine last season. Atwood, a very active rider, declares that he covered several thousand miles, notwithstanding which he spent only $1.50 for repairs. There is no denying that such a performance speaks volumes for the Brockton machine, and, incidentally, for New England roads.

It is rather strange, with such opportunities as lie before Down East outdoor sportsmen that they have taken to motorcycling not half so readily as have the denizens of the West and those Americans who hold down the Pacific slope. The latted have not the attractions in the way of fine roads, such as those which gridiron states like Massachusetts, a condition to which, it must be admitted, riders like Atwood at least partly owe their ability to keep down to a minimum the cost of making repairs.

Atwood on His M. M.

Eloped on a Motorcycle

SAN BERNARDINO Cal.—Charles Frank Hoag, a young machinist, and Miss Mattie V. McCamy, aged nineteen, both of Riverside, eloped from there on a motor tandem, accompanied by their friends, Miss Dora W. Abbott and J. C. A. King, also on a motor tandem, and securing a license here, were married by Justice of the Peace C. L. Thomas.

"We made the trip from Riverside in just thirty-five minutes," said the groom. They denied the elopement feature, but explained that they had merely run away from their friends. It had been the plan to have the marriage solemnized at Riverside two days later, but owing to the ambition of friends to make the affair one of great elaborate detail, the young folks say they were determined to outwit their friends, hence the motorcycle trip to this city.

"I'll be next," said Miss Abbott, smiling. The companions came as witnesses, and the plan was to keep the ceremony a profound secret until the friends gathered to await the marriage.

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TIMELY TOPICS

New York Club's First Trial

THE first of the New York Motorcycle Club's quarterly trials was held on Sunday, March 14th, over the New York to Poughkeepsie and return course under most adverse weather conditions. A snowstorm earlier in the week had thoroughly saturated the ground and a steady rain continuing through the forenoon of Sunday only served to strengthen the opinions of the knowing ones that no one would be able to get through the heavy mud with a perfect score.

Of the fifteen entrants eleven actually started on their strenuous trip. The officials who had proceeded to the checking points at Tarrytown, Peekskill and Poughkeepsie by rail were preparing for a day of rest; for none of them expected the competitors to reach even Tarrytown, the first checking station Their surprise was great, however, for nine mud-covered riders arrived there on time, and at the second checking station at Peekskill eight more checked in on time. H. Mapp had been eliminated before reaching Tarrytown by running into a car, while Kreuder had trouble with punctures which delayed him. Le Roy Cook started a half hour late and had made up five minutes on his time by Peekskill. A number of the competitors stopped long enough at Peekskill to take on some gasoline as a precautionary measure and their tanks had to be resealed, delaying them for a few minutes.

But if the run had been a severe test as far as Peekskill it was nothing to what was still to come. Of the nine who left Peekskill six reached Poughkeepsie. H. J. Wehman, who was the only one to arrive on schedule time, was the first one in. Voelker and Lyons, on N. S. U.'s, followed him. The others who reached Poughkeepsie were one and one-half to two hours late, while the remainder were reported to be lost in the mud, which was declared to be from 6 inches to 6 feet deep. In fact, after trying hard to get through the mud Davis and Molin returned to Peekskill in time for dinner and declared that the road had no bottom at all.

The return journey was little better than the up trip. Voelker and Lyons were the only ones to start from Poughkeepsie on time. Wehman, who had done so well going up, decided he had had enough and did not attempt the return trip at all. In company with Goerke and Chapple, he returned to New York by rail. Cook bravely started back, got lost in the mud and darkness at Garrisons, and returned from there by train. Voelker and Lyons, however, stuck to their work and managed to return to New York on time and without any mishaps.

In the hill-climbing tests all the machines negotiated the test hill before Ossining in good style, except Wehman, who had to pedal by reason of getting into a bad spot, and Voelker who had to resort to his two-speed gear. On the return trip the only ones observed on the hill outside Peekskill, were Voelker and Lyons and they went up in fine shape. The only machine which was equipped with a two-speed gear was Voelker's N. S. U., and he made good use of his low speed in many places where the mud was deep.

The economy trial which was embodied in the contest showed some interesting results, the least quantity of gasoline used for the strenuous run to Poughkeepsie being three quarts. This was accomplished by Captain Chapple, on his twin Indian; the greatest amount was seven and one-half quarts. Captain Chapple's average figures out to be about 100 miles to the gallon, and is excellent, considering the nature and condition of the course. Hills were long and numerous, and mud was there in abundance.

Competitors reported little or no mechanical difficulties except a few bent cranks due to sideslips in the mud. Punctures caused considerable trouble, however. Kreuder had to take his tire off no less than seven times.

Lyons rode a Class B twin N. S. U. touring model, and Voelker a Class A single N. S. U., F. A. M. model.

Linden Club's Spring Century

THE Linden Motorcycle Club, Brooklyn, will open the season with a Spring Century Run, which will be unique in that it will be over a route half of which includes roads on the north shore of Long Island. This is an innovation worthy of note, and there is no question that it will attract a large number of riders. The run, which will take place Sunday, April 25th, or a week later, in case of rain, will start promptly at 8 o'clock in the morning, at the club's headquarters, 1604 Bushwick avenue, one block from the Eastern Parkway.

The first fifty miles are laid out over the beautiful roads on the north shore of Long Island, thence across the island and finishing the last half of the run on the Merrick road. The checking stations will be at Cold Spring, Massapequa and Bay Shore, with a dinner stop at the Alexandra Inn, in Amityville; there is a garage connected with the inn where gasoline, oil and supplies may be had. Arrangements have been made with the proprietor of the inn to furnish dinners for the riders at 75 cents each.

An entry fee of $1.50 will be charged for each entry, and a handsome medal of original design will be awarded (at the club's expense) to all who complete the run within the time limits. Any one finishing before four or after six o'clock will be disqualified. A lieutenant will be in charge of the riders until the city limits are reached, and will set a pace of about fifteen miles per hour. Full details of the course in printed form will be furnished each rider before starting. While each rider will be required to report at the several checking stations along the route, it will not be necessary to reach the stations at any given time. Application, enclosing entrance fee of $1.50, should be made to W. Elmer Finley, Secretary, Linden Motorcycle Club, 1604 Bushwick avenue, Brooklyn.

Jersey Run Memorial Day

NEWARK, N. J.—At its latest monthly meeting the New Jersey Motorcycle Club decided upon the following route for its Decoration Day run:

Leaving Newark May 30th the run will extend down through Elizabeth, Metuchen, New Brunswick, Freehold, Long Branch, Asbury Park, Lakewood, Toms River, down the Shore to Tuckerton, to Absecon, along White Horse Pike, to Camden, along the regular Philadelphia road through Burlington, Bordentown, Trenton to Princeton, Sommerville, Bernardsville, Gladstone, Chester, German Valley, Schooley's Mountain, Hacketstown, Budds Lake, Kenvil, Dover, Rockaway, Denville, Parsippany, Pine Brook, Singac, Cushmall Hill, Verona, Montclair and home to Newark. The overnight stop will be in the

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neighborhood of Camden, and machines will be locked up and riders will not have access to them until next morning at the start of the race. The entry fee will be $2.50, with $1 for post entry.

To accommodate New York riders who have no New Jersey registration, the Secretary of this club will upon receipt of entry blank with $3.50, accept the entry and furnish the rider with a New Jersey license for the year 1909. This license, of course, will not be issued until the proper blanks have been filled out. These blanks will be forwarded by the Secretary of this club and all details in New Jersey taken care of by him. This enables the New York riders to compete in the run and at the same time get their New Jersey registration at half the price. The run committee includes R. B. Whitehead, Chairman; George E. Post, Carl W. Bush, H. E. Coryell, Thayer McLaren. Participants having a clean score will be given a fine gold medal. The run will be under F. A. M. rules, and sanction has been requested of the F. A. M. Competition Committee.

The New Jersey Motorcycle Club extends a cordial invitation to motorcyclists to participate, whether residing in New Jersey or elsewhere. Entry blanks may be obtained by application to Thayer McLaren, Secretary, 47 William Street, Newark, N. J.

The first day's run will be about 180 miles over roads almost uniformly good and with few hills; the second day's run will be about 130 miles along good roads, with a few exceptions, but over a much more hilly country. There will be a penalized hill climb at Schooley's Mountain and over Cushmall Hill on the homestretch.

Lively Interest in Chicago

CHICAGO, Ill.—If inquiries made at the different motorcycle headquarters of the city and the talk to be heard at the clubs are indications, this is to be a great year for the two-wheeled vehicle.

Already the owners of machines are gathering about the various rendezvous and planning for the racing events which are to be pulled off by the Indian Club and the F. A. M. The Chicago track will be completed by May 15th, and there are great preparations on foot for a big race meet on the 30th of May.

The Indian Motorcycle Club of Chicago has its permanent quarters at 1251 Michigan avenue. The club will on Decoration Day hold a twenty-five-mile road race for members only.

The Indian Club is also planning a three-days' endurance run between Buffalo and Indianapolis.

The Thor people are opening up their new store on Michigan avenue.

The M. M. motorcycle now has a permanent home at 1536 Michigan avenue, where the agency is carrying a large stock of machines and accessories.

PRESIDENT OVINGTON, of the F. A. M., has appointed Stephen McIver, of Riverside, Cal., as a member of the F. A. M. competition committee on the Pacific Coast. McIver fills the place formerly occupied by C. C. Hopkins, of San Francisco, who has resigned, after four years of most satisfactory service.

ST. LOUIS.—Carl Bahnsen, who successfully managed a bicycle and automobile meet on the track at Priester's Park, east of East St. Louis, last summer, is making preparations to conduct motorcycle races on this track the latter part of April.

THE Aurora Automatic Machinery Company, recognizing the advertising value of racing achievements, is finishing twelve Thors which are to be especially used in speed competition.

Profitable to Milkman

LEANDER PAGE, of Keene, N. H., has just purchased a pair of thoroughbreds to take the place of a Yale motorcycle used to cover his milk route. Mr. Page weighs over 200 pounds and has ridden a Yale for two years with so slight an expense of up-keep that it is not worth mentioning. Mr. Page is a motorcycle enthusiast and a member of the Consolidated Motorcycle Club, of Keene. Incidentally he is highly pleased with the '09 Yale 3½ horsepower, and has placed an order for one, finished in Royal Blue, with the Motor Supply and Repair Company of Keene, which controls the sale of Yale motorcycles in Cheshire County, N. H.

A Physician's Experience

IT is too well known to require any comment that physicians are everywhere finding the motorcycle particularly adapted to their purposes. How effectively the little two-wheeler "fills the bill" is proven by the experience of Dr. James E. Taylor, of Ovid, Mich., who writes the editor of the *Journal of the American Medical Association* as follows:

"I purchased my motorcycle in June, 1907. I have driven it over 4,500 miles at a cost of $57.18. Had I taken care of my machine personally the expense would have been reduced by about $15. This makes the expense for running the motorcycle approximately 1¼ cents per mile. I have had but little trouble, and this mostly during my first two months of apprenticeship. Only once, because of a broken roller, have I failed to come in on my own power.

"To a man who has been a bicycle rider, the use of the motorcycle is a pleasure indeed. By merely a twist of the wrist he can get all the speed and power he desires. As to drive, I have only tried the chain, and found it very satisfactory. I am still using the same two chains I got with my machine. I find a pleasant speed carries me about twenty miles an hour, which is at least twice the speed a team can keep up on long drives. My machine is never tired, and after a long trip, with a pumpful of oil, it is ready for another journey.

"The use of the motorcycle during the hot months of summer is especially satisfactory. When the team suffers from the heat and can be driven only at a moderate speed, then the motorcycle will take a tireless gait that will create a breeze and make riding a pleasure. A motorcycle can be used over roads where an automobile would not prove satisfactory, from the fact that the former has two wheels while the latter has four. A mere path by the roadside is sufficient for the motorcycle. By the use of the motorcycle one can complete his country rides in about one-third the time necessary for the same distance by team. Thus he has more time for study, recreation and office work. I am fully satisfied with the use of the motorcycle in my practice."

IN our March 15th issue it was announced that the Aurora Automatic Machinery Company had been granted a license to manufacture coaster brakes under controlling New Departure Manufacturing Company patents. It was also stated in that issue that the Aurora Company instituted suit against the New Departure Manufacturing Company. This was stupidity unadulterated, for, of course, it was the New Departure Company which instituted suit for infringement against the Aurora Company.

THE local racing season will be opened in Newark at the Velodrome on Sunday afternoon, April 4th. One of the events will be a five-mile professional race.

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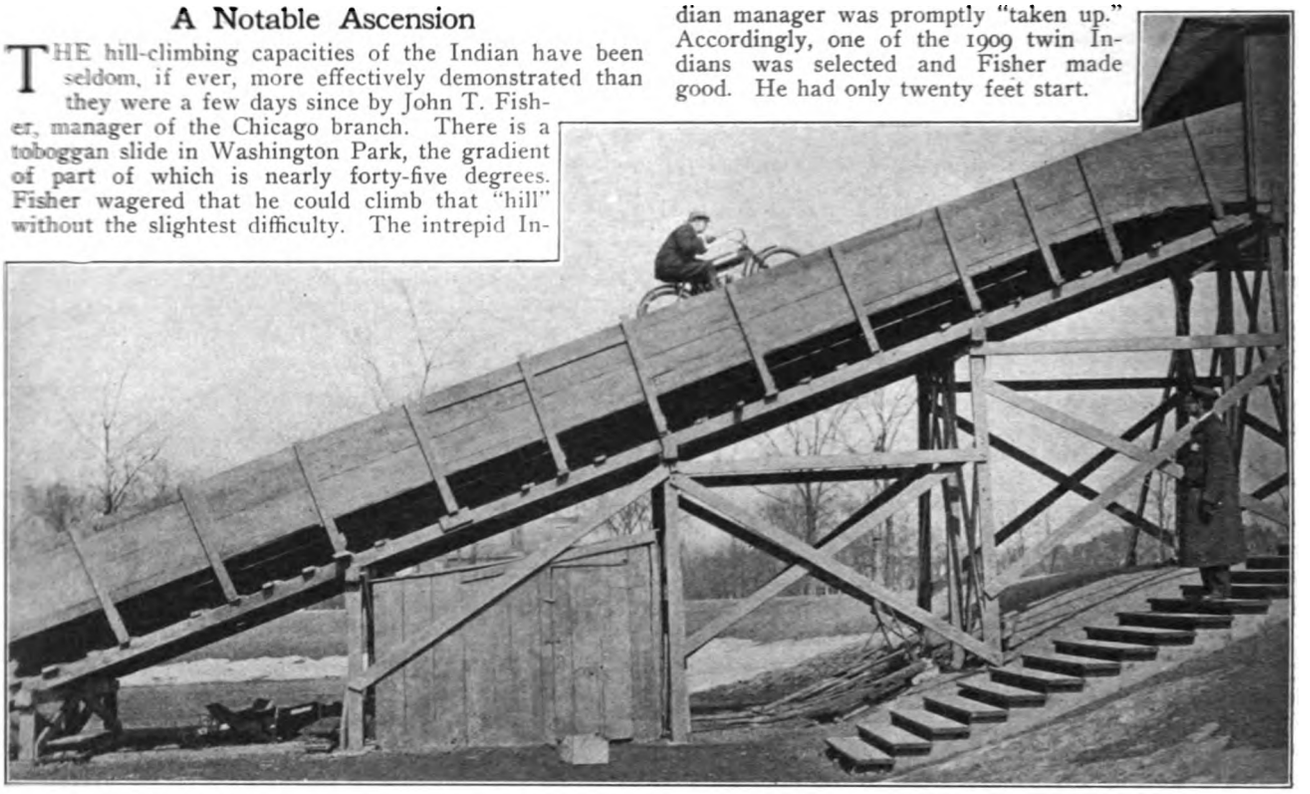
A Notable Ascension

THE hill-climbing capacities of the Indian have been seldom, if ever, more effectively demonstrated than they were a few days since by John T. Fisher, manager of the Chicago branch. There is a toboggan slide in Washington Park, the gradient of part of which is nearly forty-five degrees. Fisher wagered that he could climb that "hill" without the slightest difficulty. The intrepid Indian manager was promptly "taken up." Accordingly, one of the 1909 twin Indians was selected and Fisher made good. He had only twenty feet start.



From Los Angeles Into Alaska

FROM Los Angeles to Rampart, Alaska, is the trip to be undertaken by S. M. Wheeler. For the last 750 miles of the 3,000-mile journey Wheeler will draw over the snow-covered trail a sled loaded with a companion and other joint belongings.

Wheeler left Los Angeles Wednesday on his single-cylinder M. & M. for Seattle. At that point he will embark on a steamer for Valdez, Alaska. Instead of a dog team to haul a sled with his equipment and companion, Wheeler will tie a light but strong rope to the saddle post of the motorcycle while his companion will look after the safety of the tow. The route from Valdez to Rampart, a distance of 750 miles, will be made in this fashion and will lead through Fairbanks, Hot Springs and Eureka.

Wheeler is confident of his ability to make the trip as outlined. He spent several years in that section of Alaska and knows every mile of the trail.

To Ride Around the World

JAMES M. CLEARY, a reporter on the staff of the *Tribune*, of Chicago, and Frank H. Templeton, of the University of Chicago, are contemplating a trip around the world. They intend, after leaving the south of Europe, to run through Russia just north of the Black and Caspian seas, then south between the Caspian and Aral seas through Khiva, Bokhara, Afghanistan, into India. They intend to ride also in Burmah, Siam, Indo-China, Cochin China, China proper, Japan and the Philippines. They are anxious to know all they can learn about road conditions, and the likelihood of obtaining gasoline. No doubt they would appreciate any information on this score with which readers of this paper might furnish them.

George E. Post has been appointed New Jersey State Commissioner of the F. A. M.

Excelsior Endurance Trials

CHICAGO.—J. S. Woodworth and Frederick B. Hart, of the Excelsior Company, have made plans to start an Excelsior autocycle out for a record of 200 miles daily for fifty days. The start for this tart test, which would be a record breaker for this type of machine, will be made just as soon as the weather and roads permit. While the Excelsior makers will not admit that they have definitely decided to start the run, it is known that they will ask the Chicago Motorcycle Club officials to place the seals on the mechanism of the machines in prospect of an early start on the journey.

A Good Day's Work

FROM Stonington, Col., to Dodge City, Kansas, a distance of 181 miles, in one day, is the achievement of William W. Hickelthorn, of Stonington, who rides a 3-h. Wagner. There would be nothing wonderful about the time required to make this journey were it not for the fact that Hickelthorn had to contend with a series of some of the worst roads in the United States. To Syracuse, sixty miles from Stonington, he rode along a cow-path of extraordinary crookedness and numerous other undesirable features. The road from Syracuse to Dodge City was in a frightfully muddy condition, while, to add to the rider's discomforts, it was necessary time and again to cross an 18-inch culvert. Those who have had this experience will appreciate that, in view of such adverse conditions, Hickelthorn's performance was a rather creditable one.

ACCORDING to A. R. Pardington, manager of the Long Island Motor Parkway, thirty miles of roadway has been cleared this winter. The roadbed on this stretch will be laid as soon as the frost is out of the ground. With the additional parkway completed there will be a stretch of forty-one miles extending to Lake Ronkonkoma.

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CONCOURSE CLUB DINES AT THE HOTEL GERARD

MARCH 16, 1909, will for years stand out from the records of the Concourse Motorcycle Club, of New York, as one of the most eventful days in its history. It was simply the occasion of the Club's first dinner, but that dinner was distinctive in more ways than one, and to use the trite "complete success" would be completely out of place. The Hotel Gerard was the place, the arrangements were well-nigh perfect, there was first-class music, the menu was excellent, the attendance hovered about the century mark, and, finally, more than twenty-five per cent. of those present were members of the gentler sex, whose participation gave to the dinner a tone which could have been supplied in no other way. One of the interesting features was the attendance of a delegation representing the motorcycle squad of the metropolitan police, who seemed to thoroughly enjoy the occasion, no less than the club members appreciated their being in attendance. Another attraction was the demure and modest little "Blue Streak," the club's special favorite, and probably the most intrepid feminine rider in the world.

The menu card was neat and witty, the various courses being appropriately designated, a la motorcycle, and finished off with bright jingles at the expense of certain good-natured members. The provender, if so crude a word be permissible, was as follows: Blue Points on the Club, Mixed Pickles on the Members, Celery on the Tire, Cream of Tomatoes a la Twin Cylinder, Redsnapper Braise (Sullivan Sauce), Lettuce (Get More Together), Beef Braise (Foley Style), String Beans a la Woodsy, Potatoes on the Run, Ben Lott Punch, Roast Rastripe Capon (Motorcycle Style), Lettuce and Tomato Salad with Larsen Sauce, Concourse Ice Cream, Century Fancy Cakes, Cheese It the Cops with Crackers, and Home Run Coffee.

After this unusual menu had been disposed of, President H. M. Holcomb introduced Chairman Smith, of the Banquet Committee, who welcomed the gathering in behalf of the organization. He was followed by Secretary Larsen, who described the club and its purposes, stating that it had fifty members in good standing, and expressing himself as certain that the number would be doubled during the current year. He spoke of the need of co-operation between the bicyclists and the owners of motor-driven machines, particularly with a view to putting an end to the existing monopoly of most of the good roads, by the autoists.

Former President Adee, of the National Cyclists' Association and the Century Road Club Association, featured his address with a dissertation on sidepaths, urging united endeavor with this purpose in view. He declared that the bicyclist would be heard from again, provided only road-riding was made safe and reasonably comfortable, as against the perilous circumstances with which bicycling is now involved, owing to the prevalance of automobile "road hogs."

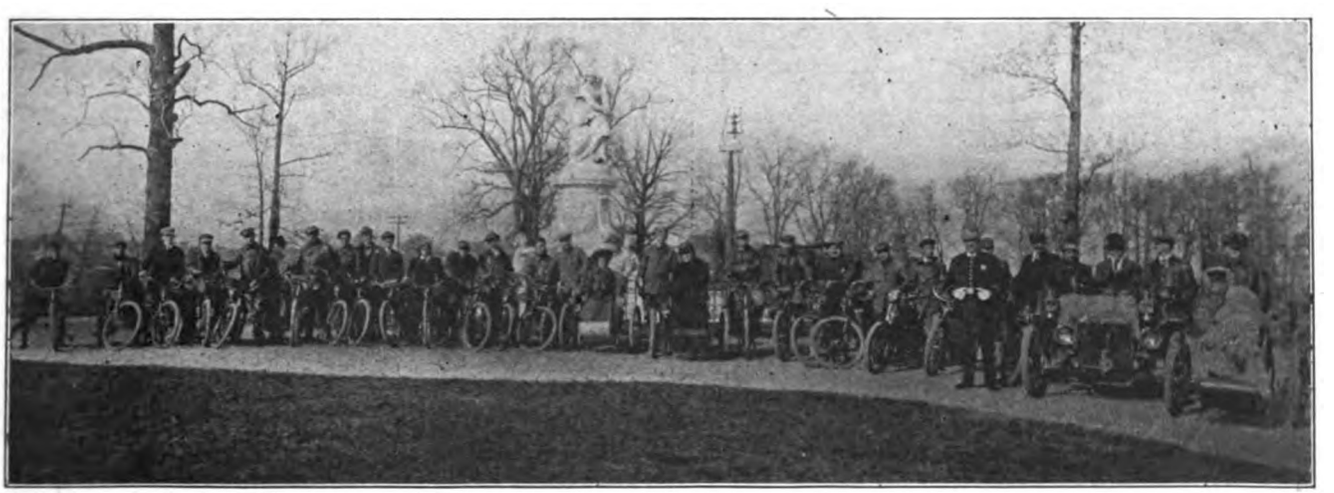
Sergeants Howe and Nierney were then heard from, together with a number of others, including Captain Sullivan. Delicate quips at the expense of Foley and Ben Lott were generously indulged in, and altogether the dinner was a delightful affair, a credit to the Concourse Club and to the sport in general.

Britons Send Us Invitation

BENEATH the caption, "American Racing Men and Their Machines," *Motor Cycle,* of London, delivers itself of the following: "There has been some talk of a representative team of American racing motorcyclists coming over to England this year to compete against some of our best riders at Brooklands. A New York correspondent writes that the Indian contingent are longing to show their heels or back tires to the riders at home. The riders are ultra-curious as to the condition of things which exist on this side, are thorough sportsmen, and not above learning anything fresh. The machines they will ride have twin-cylinder engines of 61 cubic inches capacity and geared at 3 to 1. The wheel base is 51 inches, transmission is by chain with friction clutch at rear, automatic inlet valves, standard size carbureter, battery ignition, make and break contact breaker and weight eliminated wherever possible. We would suggest that the American riders have ample opportunities to demonstrate the superiority of their mounts in the Brooklands free for all races at Easter if they feel sufficiently confident."

Three Day Endurance Run

PRESIDENT CHARLES WYATT, of the Indiana Motorcycle Club, is authority for the statement that if Indianapolis is awarded the convention the national endurance run will probably be a three-day affair, with Buffalo and Indianapolis as the termini. This is the first official announcement of the intentions of the Indiana organization in this regard, and is the first hint of what the national contestants will have to go through in the annual grind. It is planned to hold the annual economy test, which is a part of the convention festivities, over the Motordome track, where all of the contestants can at all times be within sight of the officials. Besides, a riding escort will be furnished each contestant, to see that no advantage is taken of the rules.



Group of Concourse Club Members in Riding Togs

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A Comfortable Three-Wheeler

Denver Rider a Hero

EDWARD DONNEGAN, a Denver motorcyclist, recently risked his life to save that of Mrs. Louise Baker. The woman, who lives on a farm west of Denver, was driving into the city to hear W. J. Bryan speak at the Central Presbyterian Church. Her horse became frightened when Mrs. Baker was driving across the railroad tracks at Twentieth street. The woman lost control of the animal and was being carried at perilous speed straight toward a fast incoming freight train.

Donnegan, on a motorcycle, was approaching the tracks in the opposite direction. He speeded his machine to the limit, crossed the track a fraction of a second ahead of the train and then leaping from his machine, he grasped the horse by the bit and stopped the animal. Some section men who had been working in the freight yards came to his assistance. They had been witness to his heroism.

What they had seen was a T-shaped tableau, vivid and terrible, of impending death. The train itself was at the base of the "T"; at one extreme of the crossbar of the letter was the woman; at the other the man on the motorcycle. To the section men, running, but still half a block distant, it seemed inevitable that the man and woman must be killed. Fortunately, however, both escaped.

THIS is a front view of the new home of the Worcester Motorcycle Club. The building is situated at South Bay, on the west shore of Lake Quinsigamond, about one hundred yards off Lake avenue, a boulevard extending nearly the entire length of the lake.

The Worcester, Mass., Club's New Home

SUCCESSFULLY OPERATES FORECAR

C. W. Svenson's Experiences

C. W. SVENSON, of New Britain, Connecticut, is a staunch believer in the efficacy of the tricar, and is very confident as to the future of this particular self-propelled vehicle. Inasmuch as he is master mechanic of the Corbin Screw Corporation, and is one of the leading mechanical experts in the country, his opinion must be regarded as worth something. Mr. Svenson's companion on the Indian pictured on this page is Miss Svenson. This is what Mr. Svenson writes of his experiences during 1908:

"I rode 3,000 miles during the season of 1908. Considering that I had not lost one whole working day during the entire year, 3,000 miles is quite a record. The cost was $7.40, including gasoline, oil and one tri-car spring. This spring is the only part added to my machine during the whole season. I have ridden my motor with tricar attached during the entire season and almost always carried a passenger, and sometimes two persons at one time. My motor, as you know, is a 5-h. twin, with magneto and fan attachment.

"As for the magneto, it is the best thing that ever happened. I don't believe my engine has missed one explosion during the whole year, and this without any attention whatever, excepting oiling. Besides, I can truthfully say that I have never been short of power, but always have had plenty.

"One Sunday afternoon last summer a young man riding a motorcycle of another make, also equipped with a tricar, came to my house and asked me if I wanted to go for a ride. I took my tricar, and one of my daughters as a passenger. The other also had a passenger in his car. We travelled to Meriden, and after having some refreshment, started for home. We had not gone very far when the other machine broke a connecting rod. I went to the nearest farmhouse and borrowed a rope, with which we fastened the two machines together. To my surprise I took the whole procession home in good style and not very slow either.

"I have repeatedly taken persons weighing over 200 pounds up Grand street, the steepest hill in our city. I have used the machine almost every day in going to and from the factory, always carrying a passenger I have not had one breakdown, for I keep the motor clean and well oiled. This, I believe, is the whole secret of my escaping trouble."

PITTSBURG, Pa.—Members of the long established Keystone Bicycle Club are making efforts to awaken more interest in motorcycling, and, if possible, to establish a special motorcycle section, as there is no motorcycle club here, although there has been a considerable increase in the number of riders.

COLUMBUS, O.—The local club has elected the following officers: M. B. Griffith, re-elected President; Henry Lorenz, Vice-President; Robert Erlenbusch, Jr., Secretary; E. B. Neil, Treasurer; H. Lorentz, Road Captain.

The Beverly, Mass., Club will hold its annual banquet April 5. The club will conduct a hill-climb on Decoration Day and an endurance run the Fourth of July.

Frank Zenisek, Benjamin Hospes and Frank Sobota have incorporated the Pilsen Motorcycle Club, of Chicago.

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THE LOS ANGELES CLUB

By Sanford L. Lyon

ONE year ago our club occupied a seven roomed house, and its membership was sixty-one. Prior to this time there was very little interest in the motorcycling club spirit; but we began to give race meets, and our treasury gained. This is what seemed to give us a start. Then we started pleasure runs semi-monthly, made the third Friday evening in each month ladies' night, bought a piano and pianola, etc. We found our success was due a great deal to the ladies. Music is also a good thing to keep a club together, and nothing is better than a piano and pianola for a start.

About nine months ago, we started a membership contest. We took sides, the losing side to give a banquet to the winners. This contest came to an end recently, and we gained seventy-six new members through our efforts.

Today we boast of a seventeen room club house and 170 members. Our initiation fee is $5, although during the contest period it was reduced to $2. Our dues are 75 cents per month. The election of officers comes semi-annually, January 1st and July 1st.

Our club house contains kitchen and a banquet room, fully equipped to accommodate 125 persons at one sitting. We have our own dishes and supplies in the store room. I might say that our club house is kept by a member and his wife, who make it more like a home than a club. We give them quarters and entire expenses in payment for their services.

We have two large meeting rooms and one small one, all connected with folding doors, so that they can be thrown together. Our reading room is one of the finest that we can make it, and we are constantly adding books of interest to our members.. Devoted to pool and billiards are three rooms, which are crowded all the time. Our large hall is a room in itself, and can be thrown in with the others for entertaining. Then we have our card playing room, and a trustees' room. Next in interest are our ladies' quarters. On the flat roof of the club house is an observation tower, from which we use our searchlight at night. This searchlight was made and installed by one of our boys, and affords great amusement. Having no available room of a desirable size and condition for gymnasium, we are at present erecting an athletic room, about 20 by 40 feet.

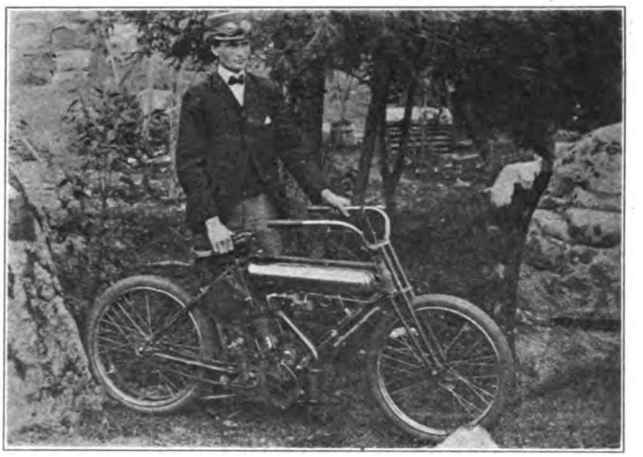
We devote about $150 to $200 to prizes for the season's runs. Each contestant in each run gets a ribbon for perfect regard of the rules mapped out by the Captain. Those having the most perfect scores for the season win the prizes.

Our monthly receptions for the ladies are becoming more and more popular. Our every other Sunday pleasure runs are coming off regularly, with large attendance, and we expect to miss none of them this season.

THE average pickaninny is attractive, even though sentiment may vary as to the desirability of the grown-up of his genus. Take it as you will, the Thor illustrated here is doing its duty. The cut is from a snapshot taken by J. S. Tormey, of Aurora, Ill., while he and a companion were making a tour of the South. He writes that it was no easy matter to induce these youngsters to pose for the photograph, taken just outside a colored folk's village, about fifty miles from Mobile. Only two or three denizens of the place had ever seen a motorcycle, and to many of them it was a kind of "devil machine," of which the natives stood in profound awe.

There ought to be a happy mean between the dude and the rider who looks like a tramp.

An Active M. M. Agent



E. F. SALZMAN, M. M. agent in Talleda, Wis., has interested the motorcyclists of that place in a measure sufficient to induce them to organize a motorcycle club. A meeting was held recently, upward of a score of enthusiasts responding to the call, and an organization was perfected. Brother Salzman is authority for the statement that the little town of Talleda is on the road to fame in the motorcycling field. In any event, he proposes to do all in his power to bring about that condition of affairs, and inasmuch as he has the reputation of being a hustler, there is no doubt but that he will be successful.

SYRACUSE, N. Y.—The local club, now having a membership of about eighty, with 150 riders in the city and fifty in the adjacent towns, proposes an active season. The club intends to conduct a number of club runs, endurance tests and hill-climbs; and as soon as the roads are in condition George L. Potter, of the Potter Company, will invite the members to be his guests at a fish dinner at his cottage at South Bay, on Oneida Lake, a drive of fifteen miles. The officers of the club, who are doing everything in their power to increase the number of riders in the city, are: President, Fred W. Walrath; Vice-President, Hamilton White; Secretary and Treasurer, J. M. C. Gillespie; Captain, Wesley Shane; First Lieutenant, George W. Fenner, and Second Lieutenant, A. V. Brewster. As yet the club has not selected its permanent headquarters. Meetings are held on the first Wednesday night of each month.

The New Jersey Motorcycle Club recently adopted a resolution providing for the admission of women to membership.

A Well-Equipped Machine

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WITH THE CLUBS

PUEBLO, Col.—The officers of the newly organized local club are Roscoe D. Atterbury, President, and C. R. Water, Secretary-Treasurer. Among the other active members are Frank Herman, K. E. Parker, Vernon Springer, R. L. Atterbury, Ray Lichenberger, Grant Lichenberger, Roy Price, T. C. Maxwell, Harry Schmidt, H. A. McKinney, W. L. Coleman, G. A. Turney, C. E. Ferguson, and Richard Birge.

CHEYENNE, Wyo.—The local motor club has opened its membership lists to motorcyclists. The following are the officers: President, William B. Barnett; first Vice-President, J. E. Stimson; Second Vice-President, Dr. Otto Snyder; Secretary and Treasurer, Fred Horn. Last year's activities of the club are being continued with an increased membership. Meetings are held weekly at the Korb & Stewart garage. Three short runs have already been held under club auspices.

BOSTON, Mass.—The Commonwealth Motorcycle Club of this city is constantly increasing its sphere of usefulness. One of its most ardent supporters is State Commissioner W. F. Mann, who, in speaking of the organization, says: "The Commonwealth Club is now in its second year. It has a considerable membership of earnest, active members. It is hoped that this club will receive the support of the riders in the vicinity of Boston, so that it can be built up into a strong organization to promote everything concerning the welfare and social opportunities of motorcyclists, to promote races and road events. For a short time the only dues of this club will be kept at $2 per year as an inducement to new members. After a brief time these dues are likely to be slightly advanced to produce the necessary revenue for the organization. The road officers can be depended upon to furnish some very interesting events during the season. A cordial invitation is extended to all local riders to become members."

SAN DIEGO, Cal.—Twenty-five motorcyclists of the city recently reorganized the San Diego Motorcycle Club. The new club is composed of a few of the members of the old organization and some new blood. The membership is as follows: James G. Scripps, R. C. Merigold, Kenneth H. Campbell, John M. Andrews, M. Y. Toews, D. Keever, James Urquhart, W. N. Gurnell, Ben L. McLeran, J. R. Howell, C. F. Bruschi, C. E. Smith, F. E. Copley, A. W. Thorndike, W. J. Hoover, F. A. Lydick, F. W. Downs, W. O. Borden, A. E. Lambla, D. A. Wood, S. P. Andrews, H. Hayward, C. A. Sheppard, G. H. Gangvin and Mr. Clark. The officers for the current year are: James G. Scripps, President; F. W. Downs, Vice-President; A. E. Lambla, Secretary; C. A. Sheppard, Treasurer; W. O. Borden, Captain; S. P. Andrews, Lieutenant, and Paul Kelly, Executive Committee.

AN innovation was inaugurated a few days ago, when about twenty-five members of the St. Louis Motorcycle Club met for the purpose of christening a new machine. John Hurck, acting as master of ceremonies, broke a bottle of Cook's Imperial over the new Indian motorcycle of Captain Bob Orr. It is stated that in the future every new machine will be christened with a bottle of Cook's Imperial.

AT a recent meeting of the St. Paul Motorcycle Club the following officers were elected for the current year: President, C. S. Horn; Vice-President, J. J. Dilley; Treasurer, E. G. Scott; Secretary, T. F. Broos; Trustees, T. F. Broos, F. S. Haas and R. Beason. The club rolls now number about seventy-five members.

In order not to make the club an advertising medium for any particular concern or dealer, the club has adopted a rule which prohibits dealers and salesmen from holding office. The action of the officers is controlled mainly by a board of trustees of five members. The club has passed a rule which forbids members from "scorching," under penalty of having their membership revoked.

AT a meeting of the Harlem Motorcycle Club, held Sunday, March 21st, at the club house, 1491 Fifth avenue, the following officers were elected for the current year: L. H. Guterman, 103 East 125th street, Captain; William L. Coursen, 180 Lenox avenue, First Lieutenant; Jac. Gold, 68 West 118th street, Second Lieutenant; Felix Lewin, 262 West 132d street, Secretary; Gus Rotholz, 1491 Fifth avenue, Honorary Treasurer; David Rosen, Color Bearer. Executive Committee—William L. Coursen, Chairman; John F. Black, Jr., Charles Gold, Thomas Carobine, William T. Hookey, Jr. The H. M. C. has just been affiliated with the F. A. M.

The third annual club run has been arranged for Decoration Day to Atlantic City and return. The itinerary of the trip will be as follows: Leave club headquarters, Saturday, May 29th, at 12 m.; arrive Lakewood, Saturday evening; leave Lakewood, Sunday, May 30th, at 7 a. m.; arrive Atlantic City, Sunday, at 3 p. m.; leave Atlantic City, Monday, May 31st, at 5 a. m., for return to club house. Checking stations on outward trip will be at Tottenville, Farmingdale, Lakewood and Atlantic City. Those on the return journey will be at Farmingdale and club house.

One of the features of the run will be a brake test on the second day between Lakewood and Atlantic City. Gold and silver prizes will be awarded to the winners in the private owners', trade riders', single-cylinder and multi-cylinder classes. Those wishing to participate in the run may obtain entry blanks and particulars from L. H. Guterman, Captain, 103 East 125th street.

SAN DIEGO, Cal.—Important business was transacted at a recent meeting of the newly organized club, held recently at Kastle Hall. Thirty-three members signed up and after some discussion it was voted to fix the dues at 50 cents a month. A race committee was appointed, consisting of F. E. Copley, M. J. Toews and Stanley Andrews. It was decided to arrange a race meeting to be held the latter part of April. Al. Rambler resigned the secretaryship on account of the pressure of business, and F. E. Copley was elected to fill the vacancy. It was voted that the third Wednesday night of each month be made the regular meeting night and that Kastle Hall be the headquarters.

SAN ANTONIO, Tex.—The local motorcycle club has adopted a constitution and by-laws, and is now making arrangements for a series of club runs. U. S. Oglesby is President of the organization.

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SAN FRANCISCO.—The season here was opened with a bang Thursday, March 4th, when the local club members gathered around the festive board and made merry over a very tempting spread. Enjoyment was the keynote of the evening, and the largest meeting in the history of the club was held. President Collins presided, being ably assisted by Vice-President A. W. Green. Chelini as usual wielded the "big stick" in the way of collecting dues. The program for the early part of the season was mapped out. It was decided to present a suitable prize at the end of the riding season to each member making the entire number of club runs.

WASHINGTON, D. C.—The members of the National Capital Motorcycle Club have given up their room at 626 F street, Northwest, and transferred their headquarters to the Eagles' Club, at 601 E street, Northwest. Their former quarters, although centrally located, were altogether inadequate. In its new home, the club enjoys the privileges of a poolroom, etc. Experience has taught the officers and others interested in the welfare of the cause that to talk motorcycle and nothing else becomes monotonous, even to an enthusiast. To make their meetings even more entertaining a committee has been appointed which provides a "set out" each Friday evening for the benefit of the members and their friends. The matter of building a club house has been under consideration for some time.

On Sunday, March 21st, about twenty-five members of the club made the run to Great Falls, Md. Though no notices had been sent out and the morning was damp and chilly, the turnout was quite satisfactory. With the exception of about two miles of cut-up clay road near the falls, the going was excellent. After leaving Georgetown (West Washington) the route leads over the Canal road a short distance and then up a smart hill to the well known Conduit road, from which a fine view of the Potomac can be had. Seven miles from the city the road passes through Glen Echo, made famous about two years ago by Marshall Collins, a bicycle cop, and Mayor Garrett, whose sole ambition was to prey upon the "speedomaniacs." A mile further the road crosses Cabin John Bridge, the largest stone arch in the world. The next eight miles of road offers much fine scenery and mostly good riding, and then the falls—perhaps not so wonderful or beautiful as others, but nevertheless well worth seeing. Meals can be had at the Great Falls Hotel, at Cabin John.

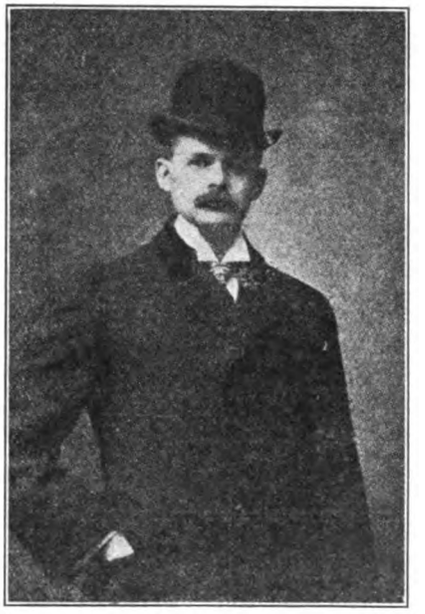
AN Oakland, Cal., rider asks us to make the following correction: "In your March 1st issue, you print a cut of a club group and label it "Curtiss Motorcycle Club." I wish to state that it is not the Curtiss Motorcycle Club, but the Oakland Motorcycle Club. I am a member of the Oakland Motorcycle Club and do not wish to have my name figure in connection with any one motorcycle, and a good many other riders shown in this picture feel the same way about it." Beg pardon. Must have got mixed somehow.

ERIE, Pa.—Twenty-five local riders met recently in the store of W. R. Kellam, 609-613 French street, and organized the Erie Motorcycle Club, electing the following officers: Charles Foht, President; S. T. Pearley, Vice-President; Henry Zachs, Secretary; Joseph Mayer, Treasurer; Charles Kent, Captain. The club voted that no dealer should hold office.

RACINE, Mich.—The local club is planning several pleasure tours for the coming summer. One will lead through southern Indiana and Illinois and another around the southern end of Lake Michigan, where the summer resorts will be visited.

MINNEAPOLIS, Minn.—Motorcycle interest in the Northwest is rapidly on the increase and all of the agents and local manufacturers of the two-wheelers are enthusiastic about the prospects for the coming summer. As good an indication as any, perhaps, of the popularity of these machines is the increasing activity and interest in the Minneapolis Motorcycle Club, a flourishing organization scarcely a year old, which at present has a membership of nearly one hundred with very ambitious plans for the coming season.

There has even been some talk among the club members of acquiring ground and building a club house this summer. During the winter months several pleasant business and social gatherings have been held by the members of the motorcycle club, and President A. T. Stata, one of the oldest riders in the city, and the man who is responsible in a large measure for the present popularity of the motorcycle in the Twin Cities, feels that he is at the head of one of the most flourishing organizations of its age in the country. Great things are predicted among the motorcyclists for the coming summer, and it is probable that with the live membership and capable leadership of the officers this organization will be considerably in the limelight during the coming season.



President Stata

CHICAGO.—Something of the enthusiasm developing among motorcyclists is demonstrated by the fact that twenty-five applications for membership in the Chicago Motorcycle Club were voted upon at the meeting of the organization on Wednesday, March 17. As the organization holds a meeting twice monthly and forty-three members were admitted at the last session, the membership list is expected to be doubled before the end of the season.

"We are planning for a number of race meets on track and road this year," said President Lang, "and expect to make quite a fuss in motoring sport circles as do the automobiles. Each year sees the number of two-wheel motorists doubled in this city, and the riders are buying higher powered machines all the time."

Arrangements are being made already for a series of races to take place about July 4, and announcement will be made of the date and rules within a few days.

DETROIT.—The Detroit Motorcycle Club at a recent meeting initiated two new members, Messrs. William Miller and Charles A. Cuson. Mrs. H. G. Smith, the only woman rider in Detroit at present, and all the sporting editors of newspapers, were voted honorary members of the club. At present the club has the use of Prismatic Hall only one night a week, but negotiations are on for a place which will be open at all times.

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KINKS AND WRINKLES

Moistening Tire Tubes—Magnetos—Catalytic Ignition—Resting Belts—Boosting the Sport

BY AN OLD-TIMER

A FRIEND of mine says that rubber tire tubes may be improved and preserved by putting into them a few ounces of water through the valve. I have also heard of many riders putting glycerine into the tube, but my experience has been that, if the tube is patched anywhere, the glycerine works its way under the patches and eventually "unsticks" them. Of course any rubber manufacturer will tell you that rubber keeps best in a dark place and that this place *must* be moist, so there may be a "method in the madness" of my friend. He declares that a rubber ring used for a plug in bath or lavatory basin will, after many years of use, be found supple and in excellent condition. I do not advance this theory as absolutely correct, but it looks so plausible to me that at any rate I am going to give it a trial and intend to improve upon my friend's "dodge" by renewing the water from time to time, as the heat generated by friction when a tire is in use must have a drying effect upon the rubber, which in time would tend to evaporate the water. Certainly spare tubes can be sprinkled with water to advantage, as they seem to "dry" quickly when carried carelessly. Here I should like to put in a few words of advice as to the folding and carrying of a spare tube, as I find many riders are careless in this direction. The best way to fold the tube is to spread it out flat with the valve in the center, pointing upward. Now roll the tube from either end until you have two rolls on either side of the valve; the air will escape thoroughly as you roll. Then slip a rubber band round this and you will find that the whole thing is compact and that the valve is protected securely from any chance damage. It is no fun, when the time comes that you are really in need of your spare tube, to find it ruined through careless carrying. Spare tubes should be carried apart from the rest of the kit, as otherwise there is a chance of an accidental puncture and also a very good chance of oil getting on the rubber, and, as everyone knows, oil has a very bad effect upon rubber; in fact, it ruins it.

ANOTHER BOSCH IMPROVEMENT.—I notice that the Bosch Company has introduced another good thing in foreign markets, and if it is not here yet, you can safely bet it will be shortly. This is a metal cover which is absolutely watertight and weatherproof under all conditions, and it should be just what is wanted by the motorcycling world. The new casing is designed on different lines from the makeshift protectors in general use. It takes the form of a complete shield which, when fixed in position, need never be removed except for the total dismounting of the magneto, and it is so designed that it absolutely protects the working parts from the chance of the entrance of any foreign matter. This casing is made in two parts; the main portion, through which the timing lever projects, fits close to the platform and is secured to it by a metal band. The case is made from hammered brass with a single welded seam. Provision is made for lubricating caps, and these are fitted so that it is never necessary to dismount the cover in order to lubricate the magneto bearings. A separate plate is fixed to the main cover by two bolts, and through this the insulated cable passes to the contacts.

MAGNETO GIVES MORE POWER.—In answering a question which one of the flock sent in I make mention of a motorcycle which I once rode, fitted with dual ignition, that is, both battery and magneto. No! old scout, it was *not* a home product, but it hailed from abroad, and a trusty mount it was. Many a time when riding, I used to play with the pretty little two-way switch, sometimes running on the batteries and then coming back to the magneto. The extraordinary thing was that on switching over to the magneto the motorcycle would "pick up" and gain in speed. My "batteries" were of the accumulator species, and the make-and-break mechanism at the contacts was very sharp in action. The only explanation is that the magneto gives a "hotter" or, as the electricians say, a "fatter" spark, and this would make for completer combustion. I first attributed it to the situation of the spark plugs, as one was fitted directly over the inlet valve, but I changed over and found the results were the same, so my theories as to a better firing mixture got "badly left." Yet, in spite of this, for many years the continental racing men claimed that the old De Dion type of contact breaker was the "fastest in the world," and it took years for the magneto to make any headway with the racing motorcyclist. Even now many adhere to the old custom. Still, we live and learn many things. I have heard of a novice who was told by a friend that the best way to test a spark plug on his battery machine was to put the plug in his mouth and find if it tasted salt when he "twanged" the trembler blade. He learned something and is still looking for the "tipster" with a baseball club!

CATALYTIC IGNITION.—Yes, that's a fine word when you say it slowly—it gives one a dry feeling at the back of the neck. You are wrong, friend, it is not a cocktail, but only the remains of an inventor's wild dream. Several years ago a company was formed for the sale of catalytic plugs for sparking. Doubtless you have seen the little automatic gas lighters which are sold. The idea was an adaptation of this principle to motor spark plugs. I have used and tested one of these plugs and have often wondered when they will spring upon the motor market again as something fresh.

As doubtless you are aware, certain metals have the property of firing or igniting gas. "Spongy platinum" and iridium are the best known of these. Roughly speaking, the spark plug was like the ordinary one, save that it terminated in a small chunk of iridium. You screwed the plug "home" and forgot batteries and coils and started her up, and there you were. Just so! But you could not *stop* unless you had a throttle which really shut off, or you "spoilt" the firing mixture and the engine spasmodically coughed until it chose to stop. Again, you had to govern the speed entirely by the throttle, which was wrong from every point of view. Throttle driving gave the very poorest hill-climbing results.

Still I carried one of these plugs in my kit for years as a curiosity, and once I had occasion to bless it and its inventor, as it brought me home when a faulty coil "gave up the ghost" miles from anywhere. Those dear old ignitions of early days are, thank heaven, only memories! In 1897 I had a small car with "tube ignition." She was sold to me by a bunco-steerer, and nearly broke my heart. The platinum tube was the only part of the car I ever sold; the rest lies buried in some wayside junkshop.

"BOOST."—I was in a motorcycle store the other day in my neighborhood and the proprietor was bemoaning the lack of interest in motorcycles, and was commenting upon the apathy of the public toward our sport. This is not the way to look at it. *Boost* for all you are worth. Speak of the joys of the open road, of the myriad delights of the sport; yes, push the speed lever over, and let outsiders *see* how you enjoy motorcycling. Don't cry that they will not see; make them see, and anon they will join our ranks and wonder how they were ever so blind.

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MOTORCYCLE ILLUSTRATED

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F. P. PRIAL

J. LEO SAUER - - - - - - - - *Editor*
L. H. CORNISH - - - - - - *Advertising*

NO SERIOUS TARIFF CHANGES

THERE is no occasion for worriment on the score of impending tariff changes. The Payne bill provides for the maintenance of the rate of 45 per cent. now imposed upon completed machines. The duty on tires is the same as at present, although if the provisions applying to the importation of magnetos become effective, the cost of these may be slightly cheapened. The proposed reductions of the prevailing duties on iron, steel and leather would be more beneficial than otherwise. In any event, the proposed duties cannot become operative until the season is well advanced, so that manufacturers have absolutely no reason for anticipating any contingency whatsoever which could possibly affect this year's trade conditions.

A NOTE TO ADVERTISERS

ON March 13th, at the eleventh hour, a new, bright, shining cut arrived at this office. It was in no way marked. The post office stamp was dim, as it often is. After some sleuthing, we finally identified the brute.

MR. ADVERTISER: Will you please mark your cuts—rubber stamp, ink, pencil, any old thing; but mark 'em.

'Nother thing. When you change your advertising copy, send it in early, at least a week before date of publication. Some folks think that we can wave the magic wand and, presto, the paper is printed in a moment and is speeding for Uncle Sam's post offices all over the country. Advertisers will please remember that there are about a million pieces of type in each issue of MOTORCYCLE ILLUSTRATED. The paper has to be written, put in type, read, corrected, re-read, printed, dried, bound, and then mailed. Besides that, it is notable that we print more than three copies. Therefore, in justice to yourselves and ourselves, send in your cuts marked and your fresh copy early.

Why, there isn't even a second to Indianapolis. The Hoosier crowd has not only got in on the ground floor, but it has monopolized the entire structure of convention possibilities.

THE COMING OF SPRING

SPRING was officially ushered in on March 21st. It was a Sunday, in these parts crisp, clear, sunny, blue-skied. In the upper districts of Manhattan, in Brooklyn and in New Jersey representatives of MOTORCYCLE ILLUSTRATED reported "very many out." It seemed a most optimistic opening for the 1909 season. A Brooklyn rider who happened into the sanctum on Monday was of the opinion that he had never seen a season open with more "go." And, he added significantly: "Gee! and what a bunch of new fellows were out"—which is the very thing the sport needs.

MANY RECORDS SMASHED

THE 1909 racing season opened brilliantly at Los Angeles on March 14th, on the new three-and-one-half-lap board track. De Rosier cut the professional mile from 56 to 47 4-5 and the five miles from 5.25 to 4.09 2-5. In the amateur class Freddy Huyck cut the five mile from 4.38 3-5 to 4.11 2-5. The Daytona figures are quite as remarkable, the old records having been made to look sick by comparison. It was a magnificent inaugural. The racing season of 1909 will be a thing for wonder.

A FEW SHORT-TIME THOUGHTS

MOTORCYCLING received the final crown of approval when, last month, a young California couple eloped on a tricar.

By the way, who has stored away in his cranium two or three original synonyms for the word motorcycle? There's a big demand for them just at present.

Join a club. You will find it a proposition affording the most satisfactory returns as compared with the diminutive annual outlay which such action requires.

This year's developments will do much to determine the future of the motorcycle. What do you intend to do to help establish it solidly in popular favor?

What a bedraggled lot of figures those last year's records are by comparison with the reports which have lately emanated from Los Angeles and Daytona.

Still on the fence as to your choice of a machine? A pretty attractive variety is offered this year, and 'tis a hard proposition to pick a favorite.

Remember that every accident, however slight, makes at least one enemy of the motorcycle. Use your head, and be reasonably careful.

We congratulate the Concourse boys. Their "first annual" was a credit not only to themselves, but to the entire sport as well.

Fit your time-killing propensities with a two-speed gear, and use it sensibly according to the requirements of your environment.

Too much "gas" is bad. Talk motorcycle at every opportunity, but try to talk the sound, substantial, taking stuff that counts.

Let all join in the task of raising the plane of the sport. Pubic prejudice is rapidly subsiding. Blot it out entirely this year.

The Los Angeles figures are evidence enough that Prince has made good.

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QUESTIONS & ANSWERS

To Obviate Starting Troubles

IS there any contrivance on the market which aids the beginner in getting started without pedalling his machine? I have an Excelsior, which, on account of its weight, "gets the best of me" by falling over before the motor gets into operation. Maybe I shall learn by experience.

Shelby, Neb. A. J. L.

The average rider having sufficient agility makes it a practice to run alongside his machine until the "psychological" moment, whereupon he mounts his saddle and speeds merrily away. Those who lack that ability may start their machines on the stand, thus warming the engine and materially facilitating matters. Of course, the easiest way out of the difficulty would be the acquisition of a two-speed gear attachment. Several of these are described in this number.

To Construct a Muffler

I AM the rider of a motorcycle and contemplate putting a new muffler on my machine to reduce, if possible, the great noise which it now makes. Can you suggest to me the best arrangement for a muffler for a two cylinder machine?

The one I am now using consists of simply four tubes, one inside the other, but does not reduce the noise as much as I would like.

Yours very truly,
A. N. Van Keulen.

You do not mention the make of your twin cylinder motorcycle. In describing the way of making an efficient muffler, this would have helped matters, owing to the fact that we should have known the position of your present exhaust pipes. However, first find a convenient spot to fix a muffler about twelve inches long and four inches in diameter—under the hanger bracket is a good place, although in most machines the rear cylinder exhaust pipe may foul the pedalling gear unless cleverly fixed. The lowest portion of bottom tube is another good place for fixing, but this again depends how you are placed for available space. The main point is to find a good spot which does not interfere with the cooling and, as stated, under the hanger bracket in the present "Indian" position makes the neatest job. Of course you will have to make new exhaust pipes, close the two ends of these by "flattening" and give both a downward curve. Now drill the ends with a fair number of small holes for about two inches up on all sides. Take a metal cylinder and bore two holes to admit the exhaust pipes and pass the pipes *right* through, the holes being at either end of cylindrical tube. Now mark where the two exhaust pipes pass the wall of cylinder and "thread" above and below in opposite directions, fitting a flat nut on either side. It may be mentioned that it is best to slip bottom nut over the end of exhaust pipe before flattening and curving it.

Now we have the two exhaust pipes fitted so that some three inches extend into the muffler at the center. Now make two ends for your muffler case and bore four seven-eighths inch holes to form a square in each hole near to the edge of the disc. Fix four seven-eighths inch tubes drilled the whole length into one of these discs, leaving the four ends open. Fix this end on the muffler case with the perforated tubes inside and then fix the other end to the four tubes, which should be about three-quarters inch longer than the muffler case. To fix these two ends, thread the four tubes which pass through the holes and screw up tight with large thin nuts at either end. Be sure and make these ends leak proof.

With this muffler the gas enters the case, the slight curve at the end of exhaust pipe being for the purpose of preventing the impact from going direct upon the wall of muffler. The gas escapes through the holes drilled in the exhaust pipe and, after expanding in the large cylinder, filters through the holes all around the four pipes, which run the length of muffler inside, and then goes into the air, thoroughly expanded and efficiently silenced, at either end of muffler.

We know of a rider who has made and used a similar muffler, from one-sixteenth inch sheet iron—running it on a powerful tricar, and can guarantee that, if properly made, and of suitable size, it is difficult to hear the engine exhaust, even from the saddle. It takes time and patience to make one, but the results are worth it in every way.

Magneto Troubles Unlikely

I AM riding a machine with a Bosch magneto. If my magneto should get out of order about twenty-five miles from home would it be possible for me to get home with batteries, if I had a spark coil with me? Could I use magneto to act as contact points without harming the instrument?

John Haren.

Greenwich, N. Y.

Why should you fear getting stalled with a machine fitted with magneto ignition? We can assure you that the reliability of the Bosch magneto is established and that, with a motorcycle so fitted, the last place to look to in the case of a breakdown is the magneto. I should advise you to carry such "spares" as the Bosch people would advise, if you are planning any prolonged tours during the season. It would not be possible to get home with the use of batteries and coil as you suggest, and the magneto could not be used in any way for the purpose of acting as a contact breaker, as the timing would be wrong. Now to prove my contention regarding the absolute reliability of the magneto: In 1906 I used a motorcycle fitted with dual ignition, that is, both battery and coil and magneto. This machine was fitted with two plugs and a two-way switch so that the rider could use either the magneto or battery ignition at will. During the whole of that year I never used the battery ignition save for experimental purposes and to keep them fit, so you can see I was carrying the weight of batteries, coil and other fittings all for nothing. Your fears are groundless, and the likelihood of your ever being stranded because of ignition trouble is very, very remote, provided that your magneto is of good manufacture. The magnets may want remagnetizing once every three or four years, but this is a minor matter compared with the joy of having a thoroughly reliable form of igniting apparatus.

Two-Cycle Motors

CAN you tell me who make two-cycle motors for motorcycle use? Single cylinder of about 3½ in. x 3½ in..? Also a two-cylinder motor of the same type?

Jesup, Ia. N. V. Shane.

Write the Motorcycle Equipment & Supply Co., Hammondsport, N. Y., and the Duck Cycle & Motor Co., Oakland, Cal.

IS the Lloyd automatic pulley purchaseable in the United States? What is its price ?

No. The pulley can be secured by application to the Lloyd Motor and Engineering Company, 132 Monument road, Birmingham, England. The English price is 25 shillings, or about $6.25.

IN reply to G. H. B., of Gilbertville, Mass., we would say that it is our practice never to recommend any machine in preference to other makes. In answer to your second question, we are quite certain that the purchase of a single cylinder would, under the circumstances, be advisable.

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AGENCY NEWS FROM A NUMBER OF PROMISING PLACES

SAN FRANCISCO.—Although California has had one of the rainiest seasons in its history, things are now rounding into shape. All the leading dealers in this city look forward to a prosperous season. Last year saw the best twelvemonth in San Francisco's motorcycle history; but 1909 promises to be still better. The 1909 models are attracting considerable attention. The local motorcycle club has done a great deal to create interest in the sport in this locality. Last season it made trips to many of the most picturesque spots in the interior of the state. The dealers are considering the matter of getting a permanent track for motorcycle contests, and hope to have in the near future a suitable place where motorcycle races may be pulled off to advantage.

DETROIT, Mich.—The old firm of Wm. E. Metzger has moved from 252 Woodward avenue to the corner of Woodward and High street, where demonstrations of the Pierce, Indian and Excelsior may be conducted to greater advantage.

William E. Wandersee, representing the Merkel-Light, has also moved and is now doing business at 129 Gratiot avenue, where he has four times as much room as formerly. The Economy Cycle and Supply Company has moved from 57 Grand River up one block on the opposite side of the avenue, where it will continue to handle the Harley-Davidson and Curtiss, which are used by the police of this city. John Trossell will continue to handle the R-S at the corner of Fourteenth street and Michigan avenue. He has added the Thor to his line.

Ed. D. Bromley, 192 Grand River avenue, who attends to the M. M. and Royal interests, has a 7-h. twin M. M. coming. Ed. says if he can find a belt strong enough to transmit the power from the engine to the back wheel some of these erstwhile proud and haughty speed artists will have to wear wire gauze dust excluders to keep their windpipes clear. The N. S U. is handled by Fred Kicherer, 192 St. Aubin avenue, brother of Eugene Kicherer, American head of the N. S. U. people. Don Klark, who rode in all the races here last season, will endeavor to maintain his reputation on a new 7-h. twin N. S. U.

Jim Butler is on the fence between a 7-h. twin Indian and the same power N. S. U., and seems to be leaning towards the N. S. U. side of the palings. If Klark and Butler both get astride the same make and power machines it will certainly behoove pedestrians to look alive when these riders heave in sight.

MINNEAPOLIS, Minn.—Several large business houses in Minneapolis and St. Paul are planning to equip many of their selling force with motorcycles, the stability and reliability of which were conclusively demonstrated last summer when, under the Minneapolis Motorcycle Club, several runs of varying length were held out and back from the Twin Cities. Valuable trophies were hung up for these events. These prizes will again be contested for during the coming year. Among the prominent Minneapolis manufacturers and agents of motorcycles are the Thiem Manufacturing Company, the Minneapolis Motorcycle Company, the Wagner Motorcycle Company of St. Paul, the Edwards Cycle Company, Hammer & Bishop, Buchanan & Wiley and others.

INDIANAPOLIS shows a new wrinkle in the establishment of a motorcycle messenger service, located at 148 Virginia avenue, the proprietors being Harry N. and Hershel Greer. On their card this firm announces that they deliver goods, guarantee quick service, and send messenger boys via motorcycle all over the town. There is no doubt that the motorcycle is ideal for this sort of work, and later on motor tricars will be just the thing for light package delivery service. At present the Indianapolis messenger service employs six machines.

SYRACUSE, N. Y.—That sales in Syracuse in 1909 will be double the record for any previous year is the unanimous opinion of the Syracuse agents. Interest in the motorcycle game is rapidly spreading to the suburbs, particularly among those whose business frequently calls them to the city. The organization last year of the Syracuse Motorcycle Club, and the completion of many road improvements, have been leading factors in stimulating the desire for machines.

Several mounts are making their initial appearance in Syracuse this year. The Potter Company, of No. 421 South Clinton street, will sell Harley-Davidsons and the Thor. George L. Potter has ordered ten machines for immediate delivery, all of which have been sold. Mr. Potter took on the Thor agency this spring, and it is the first season for the Thor in Syracuse. Charles Slingerland, who will ride a Harley-Davidson, proposes to start on a trip to Chicago as soon as the roads will permit. Later he will organize a party of friends for a trip through the White Mountains, Vermont and New Hampshire.

H. R. Olmsted & Son, No. 413 South Clinton street, the Indian agents, are looking forward to a busy season. George Delaney, who is in charge of the motorcycle department, is showing the new Indian twin. Delaney says that if everyone who is talking of buying a motorcycle buys this year there will not be enough to supply the demand. He has just delivered to Hoffman Dry Cleaning, at No. 523 South Salina street, an Indian delivery van. It is used as a clothing bus, and the van is so built that the owner may deliver suits on hangers. It is equipped with a 2¾-h. single and takes all of the hills without difficulty. Delaney this year has the Excelsior agency also. W. A. Doubleday, of the W. A. Doubleday Company, at 349 South Warren street, will sell the Merkel-Light again this year and also the Reading Standard and Yale. Mr. Doubleday said he was receiving eight and ten inquiries a day from prospective purchasers. "There will be more machines sold this year than in any preceding two years," said he, adding, "Everybody seems to be looking for more power and speed. They particularly want something to climb hills."

The Marsh-Metz will be sold again this year by F. L. Reed, of No. 104 Merriman avenue, and his son, George E. Reed. This year they will be located at the bicycle store of Krause & Heil, at No. 313 North Salina street, where their repairing was done in former years.

THERE is no doubt but that 1909 will be a record-breaking year in the motorcycle business in Milwaukee. There are nearly four hundred riders in and around Milwaukee, and fully one-half of these will purchase new machines this year.

F. A. Bremer, who recently moved into his new place, has the distinction of being the only dealer in the city to handle motorcycles exclusively for 1909. He will sell the Merkel, the same as last year, and may include the chain driven Light in his line as well.

J. J. Lantry will still handle the Thor this year, but he has dropped one of his 1908 line, and is open for an additional make this year.

The Jonas Cycle Company will have the exclusive agency for the Harley-Davidson line, which they have sold for the past three years, and will stick to their policy of handling but one make of machine.

Jos. Schostak is looking for two or three good makes for 1909. He is a progressive dealer.

After much work on his part, Mr. Kuenzli has landed the exclusive agency for the Excelsior. It is hardly probable that he could have secured this plum were it not for the fact that he is an unusually persuasive salesman, for there were three Excelsior representatives in the city last season.

The Crouch will again be shown by the Puritan Manufacturing Company, which will probably take on a chain drive machine in addition.

The Bottrell Cycle Company, John H. Wagner, and the Phillip Gross Hardware Company are all open for agencies for 1909. The last named concern has the best location in Milwaukee for selling motorcycles, and if they could be persuaded to put some good machine in their show window it would mean much to the business in this town, for they are in the block conceded to be the business center of the city, where thousands upon thousands pass every day.

RIVERSIDE, CAL.—The number of motorcycles registered in Riverside is steadily climbing, Dr. I. H. Holland being among the more recent purchasers. He has secured a 2¾-h Indian from the Riverside Cycle and Sporting Goods Company with which to visit his patients hereafter.

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$50 in Gold to

G & J Motorcycle Tire
Corrugated Tread

$25 first prize; $15 seco
the best advertisements on
Tires. Open to all riders
purpose and conditions of

WE who **make** Indianapolis G & J Motorcycle Tires know their merits too we to **advertise** those merits as forcefully as we should. In other words we ma be compared to the undefeated racer.

He becomes so accustomed to defeating competitor after competitor that h doesn't feel the elation, the **enthusiasm** that makes his **audience** cheer him to th echo. He **expects** to win.

It has become a **habit** with us to make tires of **unvarying** superiority. Th result is that we have lost the power to **express** their excellence as enthusiasticall as the **rider** who **uses** them.

We talk from the viewpoint of the manufacturer who knows that certain pr cesses produce certain tires. He talks from the viewpoint of the user who sees th **results** these tires give in actual service.

And it is **results**—not causes—that tire users want to know.

We therefore offer the above prizes to obtain the opinions of motorcyclists Indianapolis G & J Tires.

If you use them (and very few don't) tell **your** experience with them. Ad to it, if you wish, the opinions of your friends.

G & J TIRE COMP

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Motorcyclists

prize; $10 third prize for dianapolis G & J Motorcycle No restrictions. Read the contest below and get busy

G & J Motorcycle Tire
Bailey Tread

If you have never used them, you very probably know several things that other motorcycle tires don't do that they should. You can truthfully assert that Indianapolis G & J Tires **do all** these things.

Briefly, the point is this. Write the best advertisement you can--an advertisement which you think will interest other riders. Don't stint yourself. Make it as long as you wish. Have it in the form of a reading notice or a display ad. But make it **interesting.** You don't have to be an ad-writer to do that.

All advertisements must be in our hands not later than April 15.

The prizes will be awarded by a committee of three outside of this company—consisting of the advertising manager of this paper and advertising managers of two other publications.

No contributions will be returned and we reserve the right to use any in addition to the prize winners.

The names of the winning contributors will be published in this paper as soon as the judges make their award.

Write **your** advertisement at once and send it to the

NY, Indianapolis, Ind.

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MAKERS AND SELLERS

Royal Motor Tests

A SERIES of tests are being conducted by the Royal Motor Works, of Worcester, Mass., to give absolutely reliable and authentic data with regard to the efficiency of the Royal Pioneer motor under all conditions of running, and definite data with regard to its performances under any condition or set of conditions. The manufacturers are enabled by the results of these tests to make all of those minor refinements on stock machines, which are usually only to be obtained by a special "tuning up" in the hands of an expert. In these tests the Royal people are using all of the latest and finest apparatus obtainable for this work, the power developed by the motor being measured to the last fraction by the absorption dynamometers, and conditions within the cylinder being graphically represented and indicated by use of the managraph. A full and more extended description of these tests and certain of the results obtained therefrom will be available at a somewhat later date. The bore of the Royal Pioneer motor is 3½ inches, and not 3 1-3, as has been erroneously stated.

New Dealer in Albany

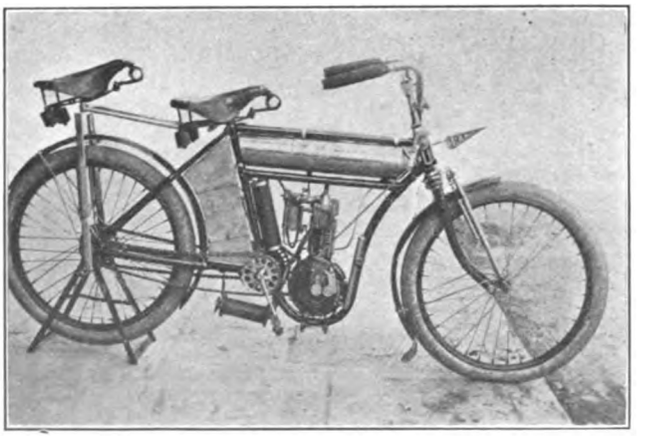
ALBANY, N. Y.—Mr. Emil O. Weeber, the largest bicycle dealer in Albany, has broken into the motorcycle business with agencies for the Thor and Yale. He will carry a full line of parts and supplies. His new garage, salesroom and repair shop will be one the finest in the state, covering two lots, 174 and 176 Central avenue, one of the principal streets of Albany and easily accessible from every road leading into the city over either asphalt or block pavement. Every courtesy will be extended to visiting motorcyclists.

Two New Attachments

R. K. HOLMES, 116 East Seventh street, Los Angeles, vice-president of the F. A. M., is the junior partner of a Los Angeles firm which recently secured patents for what are known as the "H & H" tandem and spring front fork attachments, either of which may be affixed to any motorcycle.

It will be noticed from the illustration below that the plungers of the patent arrangement are attached to the arch at the top of the fork, and that rebound springs are so designed as to take up all lost motion, and to serve as an efficient preventative of jarring and rattling.

The tandem attachment is similarly constructed, except that the plungers are reversed. Fastened to the rear axle, they are also fitted with a rebound spring. The side rods are connected either to the rear of the saddle or by a yoke to the seat post.



Improved Solar Lamps

NOTWITHSTANDING the progress made in motorcycle construction, there are many little details that remain in an undeveloped state. The manufacturer has been so busy perfecting his motor, frame, spring fork, etc., etc., that he has had little or no time to pay attention to such details as lamps, horns, saddles and other fittings. But a change of conditions is at hand. The 1909 rider may, for example, select a pair of tires from any one of a half dozen makes—all of them made especially for motorcycle use. Lamp makers have shown that they do not intend to neglect the fast growing motorcycle trade. And it is a field that offered many chances for improvement. The one reason that has operated, to a greater extent than any other, toward limiting the distance a motorcyclist could travel in a day has been his lack of a good lamp to light his way by night.

At the recent automobile shows an excellent lamp was shown the motorcycling public for the first time by the Badger Brass Manufacturing Company, makers of the well-known Solar lamps for automobile use. This is a substantially constructed lens mirror searchlight, six inches high by four and one-half inches in depth, that is fitted with a powerful reflector, front glass and a five-sixteenths foot tip. It is built of the highest grade materials to withstand the vibration that shakes an ordinary motorcycle lamp to pieces in a few weeks' time. Not only the lamp itself, but also the method of securing it to the machine has received the most careful attention. The Solar bracket is a strong, steel casting that clamps securely to the handlebar stem and is secured to the lamp with a set screw. The outer, or lamp end, of the bracket is flattened, and it fits snugly into a recess that is cast inside the back of the single piece body of the lamp. Another detail of great merit is the fact that brackets to fit any of the standard machines are made. The rider should specify the model and make of his motorcycle, and he is then certain to secure the proper bracket to fit it.

There is also a Solar generator that is designed especially to supply gas to the new lamp. The lamp is listed at $5 and the generator $4.

Motor Hearse the Latest

IN a recent United States consular trade report, General Consul Gen. H. Mason devoted a great deal of attention to the recent Paris Automobile Show. They exhibited a motor-hearse, which is certainly a novelty, the motor part, not the hearse. There were also many automobile fire engines shown. An industrial exhibition will be held this coming summer at Amsterdam, running from June 15th to August 1st. It will include a motor section. An International Automobile Exhibition will be held at Christiania, Norway, some time in May. A list of those Christiania firms who are in the market for automobiles and who might therefore be interested in motorcycles, can be obtained by any manufacturer by addressing the Bureau of Manufacturers, Washington, D. C.

Simple and Efficient Pump

H. K. AUSTIN & Co., of Reading, Mass., manufacturers and sole owners of the patent Austin pumps and flexible coupling, produce a flexible coupling which fits all tire valves, and can be used on any pump. It is simple, durable and efficient. It gives plenty of power, is easy to operate, saves time, patience and money. The patent Austin pump has four patents to protect it. It has a rubber nipple that fits all valves. It can be removed quickly from tire valve. It saves air as the cap can be put on so quickly. It gives 100 pounds pressure easily, by the use of a rubber nipple. It has a frame clamp to carry it on a machine.

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DETROIT, Mich.—The Economy Cycle & Supply Company has opened up an exclusive motorcycle garage at 74 Grand River avenue. It is large enough to accommodate thirty-five motorcycles, and is operated by four good machinists to do the repairing. The company has just remodeled its main store or salesroom, at 57 Grand River avenue, which was scorched by fire during the week of the Chicago Show. The Economy Cycle & Supply Company is distributing agent for the Harley-Davidson and the Curtiss.

THE Tiresele Company, of 53 and 55 Bank street, Newark, N. J., has entered the motorcycle field with a solver of certain tire problems, viz., "Tiresele," a fine powder, which, it is claimed, cannot be dissolved by acids, nor does it interfere in any way with vulcanizing. The following are the manufacturer's instructions, in the event of a puncture on the road: First—Remove the valve from the valve stem. Second—Take one small box of the Tiresele and place the same in a can or any suitable vessel, add one tumbler of water and mix well. Third—Take our special gun, insert end into can and draw the mixture into the pump. Fourth—Discharge the contents of gun into the inner tube through the valve stem. Fifth—Replace the valve, revolve the wheel once or twice. Sixth—Inflate the tube, and you are ready to proceed. Lyon & Simpson, of 1777 Broadway, are the New York sales agents.

THE Connecticut Telephone and Electric Company claims that the Connecticut Cycle Coil, unlike many similar coils, is designed to be operated on three volts or two ordinary dry cells. The principal aim of the company in designing this coil was to devise a product which would be small in size and could be operated on two ordinary dry cells, inasmuch as this construction would materially reduce battery maintenance, be much neater in appearance and require much less space, which, at best, is limited on a motorcycle. In actual test these coils have given more mileage from two ordinary dry cells than could be secured by some other coils operating on three. Furthermore, the coil produced more power on the high speeds and it was quite noticeable that the motors would start more readily in cold weather, due, of course, to the exceedingly hot spark produced. This coil is made up for both one and two cylinder engines.

NEWARK, N. J.—Benjamin F. Howard, who was formerly in the business at Verona, N. Y., has opened an agency at 38 Belleville avenue, Newark, where he handles the M. M. and a complete line of sidecars, delivery cars and accessories. He also maintains a complete repair department.

AGENTS who want a really fine poster, something which will decorate the walls, can obtain the same by dropping a postal card to Morgan & Wright, Detroit. They have just gotten out a very handsome panel poster which they will send free on request to every motorcycle agent. It is a fine thing.

TOLEDO, O.—H. T. Roberts, of Rochester, N. Y., has engaged with the Consolidated Manufacturing Company, manufacturers of the '09 Yale 3½-h. motorcycle, Yale and Snell bicycle, Consolidated package cars and Hussey handlebars. He will travel through the Middle West Mr. Roberts is an athlete of the first water and a motorcycle enthusiast, thoroughly familiar with the trade.

CHICAGO.—C. H. Lang, representative of the Harley-Davidson, sold nearly all of his 1909 allotment to agents. He will retain a number of machines for retail trade in this city. The factory at Milwaukee is working day and night shifts. According to Mr. Lang the two-speed machines are meeting with quite a demand from doctors. These machines are equipped to carry a physician's kit.

FORT WORTH, Tex.—F. A. Johnston, of this city, has secured the general agency for Texas and Oklahoma for the Yale 3½-h. motorcycle. Johnston declares that agencies are rapidly being established in both states and that the public will soon be able to purchase the Yale through agents in each city and town in Texas and Oklahoma.

THE Michigan Autocycle Company, Port Huron, Mich., have taken on the agencies for the Indian, Curtiss and Harley-Davidson. They are new to the motorcycle field.

Curtiss Popular in the West

THE above illustration shows a carload of machines about to go forward to the Curtiss California agent, Mr. George A. Faulkner, 351 Twelfth street, Oakland. The Curtiss Manufacturing Company ships Mr. Faulkner a carload of machines every two weeks and will continue to do so until June.

THE Evansville, Ind., agency for the Yale has been taken by the Fellwock Auto and Manufacturing Company.

An Attractive Poster

BELOW is a much reduced cut of a poster, 20,000 copies of which have been sent by the Eclipse Machine Company to motorcycle and bicycle dealers and repair men throughout the country. The centre of the picture is occupied by T. N. Biddle, who travels for the Eclipse people, and who is one of the widest known men in the trade. The company report that it is meeting with great success in the sale of its new coaster brake, sales having increased each week since the Eclipse hub was placed on the market. The factory in Elmira, N. Y., is running night and day.

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TRADE NOTES OF LOCAL AND GENERAL INTEREST

ON March 1st Harry S. Howlett, who has been identified with some of the largest tire manufacturers in the New England states, assumed charge of the Jones Speedometer office in Boston. Manager Howlett will promote the Jones' interests throughout the New England territory, where he is well and favorably known in the trade. He was formerly engaged with the Diamond Tire Company, and more recently with the Fisk Rubber Company's Boston office.

The U. S. Reduction Company, 56 Law street, Chicago, Ill., call the attention of the trade to their aluminum solder. They say that the severest test demonstrates that this solder makes a strong, durable joint. They will send a sample on request. It might be a good thing for manufacturers and repair men to get acquainted with this new product. The company will also send their pamphlet to any inquirer.

Handy in more than one sense are the well-fitting and durable gloves produced by the O. C. Hansen Manufacturing Company, of 337 East Water street, Milwaukee. A handsome glove adds distinction to the appearance of a rider, while at the same time hand-wear of first-class material, such as is manufactured by this firm, serves a very practical purpose.

Sales Manager Guy M. Greene, of the M. M. branch in Chicago, has engaged two assistant salesmen. Incidentally, it may be mentioned that several M. M. agencies have just been established in Iowa and Wisconsin.

Evansville, Ind., agents report that motorcycling has taken the city and its neighborhood by storm. More machines have already been sold than in any other year during an entire season.

Kimpson Brothers, of Rochester, N. Y., have succeeded the firm of McKinney & Gilpin, of that city, and will handle Yale motorcycles and Yale bicycles. Rochester is a very good motorcycle town and naturally there is a lot of competition among the dealers as to the relative merits of their respective machines. Yet Kimpson Brothers report that the '09 Yale is holding its own on the hills as well as on the level. They declare that its popularity is largely due to its silence, a feature which attracts much attention from those who do not know that the noise nuisance is optional with the rider.

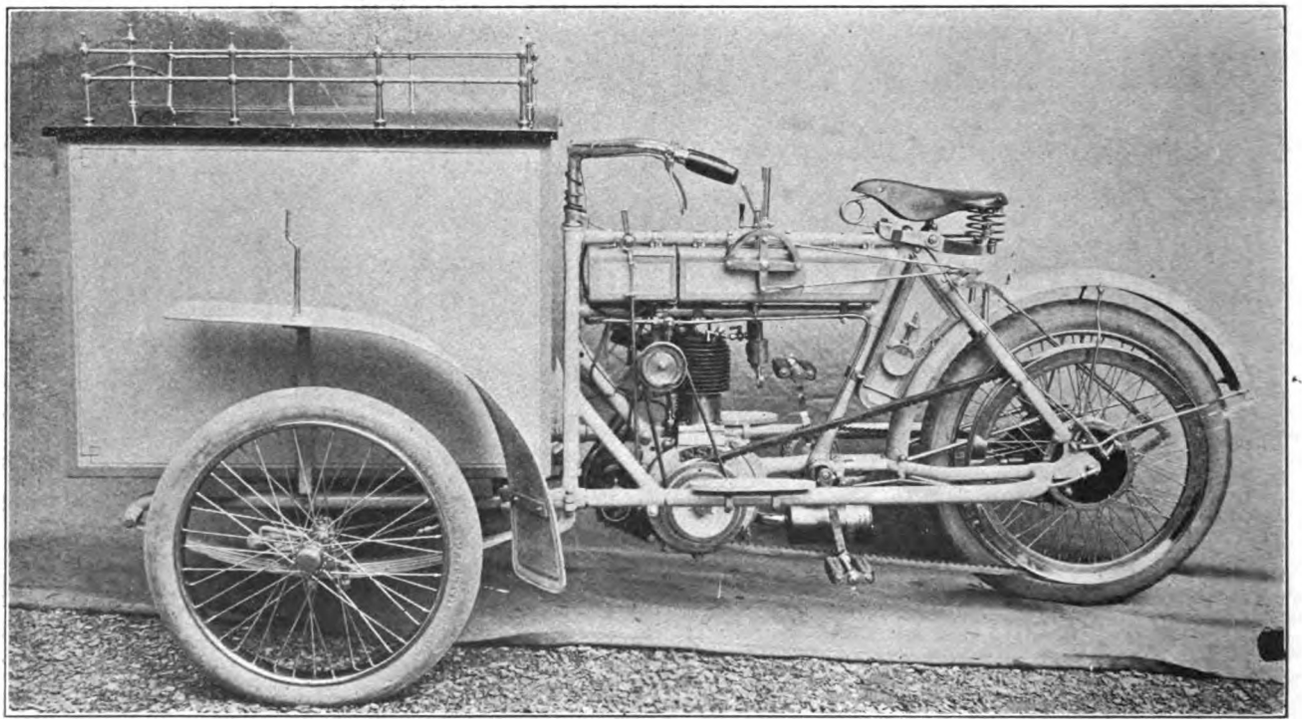
The Reading Standard Company is publishing a book of unsolicited testimonials and expressions of satisfaction from R-S riders. The book will contain about 80 pages and will be furnished free upon application to any one interested in R-S motorcycles, and should prove of considerable assistance to agents. The company will furnish any of the testimonials contained in the book in loose leaf form to its agents. Incidentally, the company is preparing a campaign of "helps to the agents."

The Philadelphia Police Department has recently purchased thirty Indian motorcycles to be used by the motorcycle squad, specifying that all of them be equipped with Morgan & Wright tires. It is interesting to note in connection with the placing of the order that this department bought and used the first six Morgan & Wright motorcycle tires placed on the market.

The Dow Rim Company, with headquarters in New York, has been incorporated for the purpose of manufacturing motorcycles, bicycles and other vehicles. The capital stock is $100,000, and the incorporators F. J. Erwin and W. H. Heagerty, of New York, and E. W. Renne, of Hoboken, N. J.

LATEST N. S. U. DELIVERY VAN BOTH HANDSOME AND EFFICIENT

THIS 4-h. single cylinder delivery van, manufactured by the N. S. U. people, is typical of Teutonic sturdiness and at the same time contains many elements of beauty of appearance combined in nice proportion with those factors which make for a high degree of practicability. The machine is well worth studying. It is fitted with mechanical valves, ball bearings on engine shaft and extra large flywheels. The two front wheels are of the 24 by 2½ inch variety, while the back wheel is 26 inches in diameter. Semi-elliptical springs are attached to the front axle. An internal expansion brake, controlled from the handlebars by Bowden wire, is fitted to the rear wheel, and a back pedal brake to the two-speed gear, which has an intermediate free engine position and is of the well tried epicycle type.



N. S. U. 4-h. Single Cylinder Delivery Van

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THE EXCELSIOR AUTO-CYCLE

LOW SADDLE POSITION-LONG WHEEL BASE-LOW DISPOSITION OF WEIGHT

A Few of the Many Points Wherein

THE EXCELSIOR EXCELS

A powerful, silent, vibrationless motor that is big enough for the job and does not wear itself out by excessive speed to meet the overload. **A straight-line frame** that is built on scientific lines, with every point of stress properly reinforced, not merely a collection of tubing bent to dodge the motor and accessories and heavy enough to hold up by main strength and awkwardness.

A low, comfortable saddle position that lowers the center of gravity, eliminates skidding and makes the Excelsior Auto-Cycle the touring car of motor cycles. **A shock-absorbing front fork** that acts along the line of impact, that overcomes all road irregularities without jolt or jar. **A lubricating system** that places an abundant quantity of oil where it is needed and keeps it there and not on the outside of the machine or the rider.

An accessible machine, in which all parts may be reached with the least possible interference with any other part, and the wheels removed without interference with mud guards or other accessories.

Independent belt and chain adjustment, whereby both belt and chain may be kept at proper tension.

Low saddle position and free motor, enabling the rider to stop at will without stopping the motor, rest comfortably in the saddle with both feet on the ground, and proceed by merely advancing the tension lever and replacing the feet upon the pedals.

A machine that is sold at a fixed and invariable price by established dealers only, thereby protecting the buyer from depreciation in value through price-cutting by overstocked dealers or curbstone brokers.

A machine that is backed by the financial strength, factory facilities and sterling reputation of a company that has been in business since 1876.

Our new Catalog M. C. 229 gives full details. Write for it today.

EXCELSIOR SUPPLY COMPANY

233-237 RANDOLPH STREET CHICAGO, ILLINOIS

ESTABLISHED 1876

STANLEY T. KELLOGG

Eastern Distributor EXCELSIOR AUTO-CYCLES

2233 BROADWAY **Write for Agency Proposition**

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MOTORCYCLE MART

BUY SELL EXCHANGE

Two Cents a Word Cash With Copy

FOR SALE—1908 Model F N. four-cylinder motorcycle in perfect condition; runs like new. Recently equipped with Corbin 2-inch trips and Standard rubber pedals. If you want the prettiest, sweet running machine for [illegible] S. Main street, Akron, O.

FOR SALE—1908 Indian Tricar, French Grey, Red Upholstering, Thirty-inch wheels, tires, run 300 miles, $60. F. R., [illegible]

FOR SALE—One Indian tricar in good condition; two extra large generators with brackets, storm boot; price $100. Selling for business reasons. W. J. Abbott, Troy, N. Y.

FOR SALE—One 2½ h.p. Merkel Motorcycle, in good condition, with extra bell etc.; will take $50 cash. W. M. [illegible] Neb.

WANTED—Motorcycle, Curtiss preferred; state condition, make, horsepower and price. Fred McCall, Croton-on-Hudson, N. Y.

FOR SALE—2 h.p. Merkel Motorcycle; loop frame, with extra tires and tubes; a bargain. J. Grossman, Jr., 328 South Tenth street, Reading, Pa.

EXCHANGE—Pierce four-cylinder motorcycle for small runabout. E. E. Moss, Ventura, Cal.

FOR SALE—1908 Indian, 2½ h., stand, cyclometer, rough rider grips, horn and generator. Fine condition; cheap for cash. A. E. Brammer, Box 342, Tampa, Fla.

FOR EXCHANGE—New Standard Typewriter and $40 cash for first class motorcycle. N. E. Ramsey, Lincohiton, N. C.

FOR SALE—Thor Motorcycle, in good condition, $120. Write for particulars. Clyde Lindquist, Coldwater, Mich.

FOR SALE—[illegible] Special, excellent condition; a chance to get a late model of the best machine built at a bargain. [illegible] in good shape, $60. C. H. [illegible] Box 2 Flemingsburg, Ky.

FOR SALE—Indian Motorcycle in good order. 2¼ [illegible] used but very little. Write for particulars. [illegible] N. J. Box 262.

FOR SALE—1908 [illegible] Indian, new tires, $125. 1908 [illegible] $75. Carl W. Bush, Caldwell, N. J.

AGENTS CARDS, ETC.

[illegible] Motorcycles. When in Cincinnati you are [illegible] make our place your headquarters. You will be heartily welcome. Special room fitted with every convenience for the [illegible] Motorcycle Co., dealers in Motorcycles and Accessories, 203-5-7 Race street, between Canal and [illegible] streets, Cincinnati, Ohio. Phone, Canal, 233.

WANTED—50 second hand machines on hand, all [illegible] for cash, for illustrated circular describing [illegible] Co., 762 Eighth avenue, New York City.

[illegible] Ball Bearing Fibre Idler, [illegible] For cut and [illegible] street, Elizabeth, [illegible]

[illegible] and repaired. [illegible] Brazenor [illegible] Y.

[illegible]—East End Cycle Co., [illegible] Pa.

Gleanings of the Trade

OF extreme interest to the trade is the incorporation, last week, of the Herring-Curtiss Company, of Hammondsport, N. Y. The capital stock is $360,000, one-half common and one-half preferred. The company is to manufacture motors, motorcycles, boats, vehicles, balloons and flying machines. The company will start with a capital paid in exceeding $200,000. The officers are: President, Hon. Monroe Wheeler; Vice-Presidents, C. Glenn Curtiss, Hammondsport, Augustus M. Herring, New York; Secretary and Treasurer, L. G. Masson, Hammondsport. Captain Thomas S. Baldwin and William D. Gilbert, of New York, are also members of the board of directors. The company has acquired the property of the Curtiss Manufacturing Company and expects to double its plant this season.

AN item of interest in trade circles in Buffalo is the fact that the old established house of Adam Hauck & Sons Company has taken up the local selling agency for the Greyhound motorcycle, the product of the Auto-Bi Company, of Buffalo. This is indicative of at least two things—that the motorcycle in general has developed to the point where it is commercially of interest to solid, conservative business people, and that the 1909 Greyhound is well forward among the best propositions in the motorcycle market. With the excellence of the Greyhound on one hand and the push and enterprise of the Hauck concern on the other big results are expected from the arrangement above noted.

THE Los Angeles police department's benefit fund has been increased $25 by the heirs of the H. W. Hellman estate. The check was presented as a token of the appreciation of the Hellman heirs at the promptness displayed by the motorcycle policemen in responding to a burglar alarm.

THE motor and bicycle squads of the Philadelphia police held a banquet at the Hanover recently. Superintendent Taylor was the guest of honor and Sergeant Jacoby was the toastmaster. A handsome gold watch, the gift of members of the force, was presented to Sergeant Fritz.

THE Minneapolis Police Department has ordered four more Thor motorcycles—two of them being the 3½-h. and two of them twin cylinders. This makes eight Thors in service in that city.

WASHINGTON, D. C.—The Chesapeake & Potomac Telephone Company has purchased another Indian motorcycle from Charles E. Miller & Bro. This is the fifth Indian machine the telephone company has purchased.

CHICAGO.—The Hornecker Motor Manufacturing Company is establishing a branch for the Torpedo motorcycle at 1219-1221 Michigan avenue.

The Central Cycle and Supply Company, Wichita, Kan., has gone into larger quarters at 716 Kansas avenue. D. B. Simpson is manager of the company, which handles the Indian.

Charles Drude has been appointed referee for all motorcycle events held in Detroit, under the auspices of the Detroit Motor Cycle Club.

A. E. Walter has taken the Kearney, Neb., agency for the Indian.

A FIVE YEAR GUARANTEE

On all PFANSTIEHL MOTORCYCLE COILS

The Leading coil, Standard equipment with discriminating Manufacturers. Reasonable prices

Reply DEPT. 8

PFANSTIEHL ELECTRICAL LABORATORY, North Chicago, Ill.

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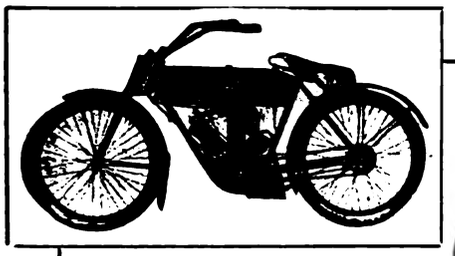
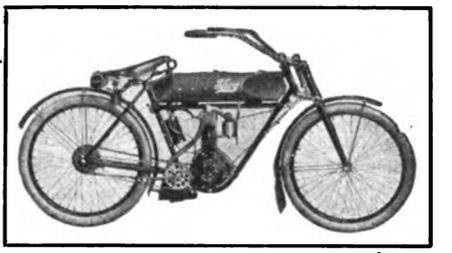


Thor



When you see that name on a Motorcycle you know it is backed up by the Largest Makers in the World, with years of experience

Thor, the Father of all the American Motorcycles

We were the first to make the Best Motors. We are still making the Best, but have lots of imitators to-day who are trying to reach our standard of quality. Our record and reputation were made with quality, and we are still holding them. When the grass peeps out of the ground note the large number of **Thors** running around. *Wise dealers* are *Thor Agents,* and they are very busy filling orders just now. Will you join their ranks? If so, write Dept. M.

Aurora Automatic Machinery Co.

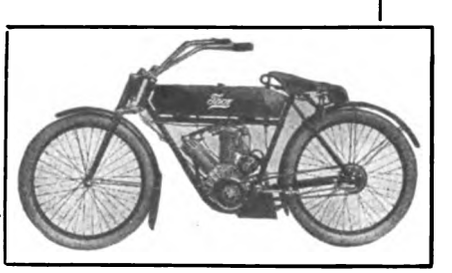
AURORA, ILL.

DISTRIBUTORS

MOTORCYCLE SPECIALTY CO.
258 COLUMBUS AVENUE BOSTON

J. S. LENG'S SONS CO.
33 MURRAY STREET NEW YORK

A. FREED
SAN FRANCISCO AND LOS ANGELES, CAL.



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BREVITIES CULLED THROUGHOUT THE COUNTRY

[illegible] company is now distributing its [illegible] and supplies. The little [illegible] printed and illustrated, [illegible] in its scope. Riders will [illegible] a copy, which may be had [illegible] Company.

[illegible] has found a very comfortable [illegible] George W. Reinbold, 2419 North [illegible] Reinbold is a thorough motorcycle man [illegible] from A to Z, in addition to being very [illegible] list of satisfied customers. During [illegible] city last month he sold and de[illegible]

[illegible] was awarded to Boston on a recent [illegible], 1305 Bedford avenue, Brooklyn, [illegible] week of March 20th with sales of five Marsh[illegible] Eagles. Brisk business that; hence the [illegible] the Curtiss agency, 1203 Bedford ave[illegible] Weyman business was lively also.

Jenny has achieved the reputation of being one of [illegible]ading motorcycle promoters in the Middle West. Jenny [illegible] the Harley Davidson in Terre Haute, Ind., and [illegible] clearly understood that 1909 will be the biggest [illegible] in the motorcycling history of the Hoosier state.

[illegible] Koehler Sporting Goods Company, at 845 Broad [illegible], Newark, N. J., which took on the Indian agency a few [illegible]s ago, reports the sale of seven Indians for the week [illegible] March 20th.

[illegible] is being featured in Buffalo by the Haverford [illegible]mpany, which has just opened a branch in the Bison [illegible].

[illegible] Auto Company, of Bridgeport, Conn., has tak[illegible] Excelsior.

THE Thor agency for Dade County, in Florida, has been secured by J. W. Harper, of Miami. Harper has handled bicycles for a number of years, and reports that the accession of motorcycles to his business has proved an excellent move.

The following notice is proof enough that there is a great demand for Harley-Davidsons on the Pacific Coast: "Stolen, 1909 Harley-Davidson Motorcycle, No. 3016, from 921 South Main street, Los Angeles, California, March 12. $25 reward will be paid for information leading to the conviction of the thief. Communicate with Lee Richardson Auto Company, Redlands, California." The stolen machine was the first 1909 model shipped to Redlands.

Work on the reconstruction of the building at 1309 Michigan avenue, Chicago, where the Aurora Automatic Machinery Company is establishing its Chicago branch for the distribution of Thor motorcycles, has been completed. The building provides adequate facilities for the handling of the Thor machine.

F. J. Purdy, formerly with the William R. Ruess Auto Company, of Los Angeles, Cal., has bought the Alhambra garage on Garfield avenue, Alhambra. He took possession a few days ago, and is carrying a full line of tires, motorcycle and automobile supplies, and is equipped for general repair work.

The Colorado agent for the Wagner is W. W. Whiting, of Denver. Whiting is making special efforts to interest the women folk in the ladies' model manufactured by the Wagner people.

The New England agency for the Minneapolis two-speed has been secured by the Maple Place Garage, of Jamaica Plain, Mass.

N. S. U. agencies have just been established at Mattawan, N. Y., and at New Bedford, Mass.

A Few Good Agents Wanted to Sell the

SENSATION OF 1909 SEASON

[illegible] H.P.

[illegible].00

4 H.P.

$200.00

EMBLEM MOTORCYCLES

Manufactured by

[illegible] **Manufacturing Co.,** **ANGOLA, N. Y.**

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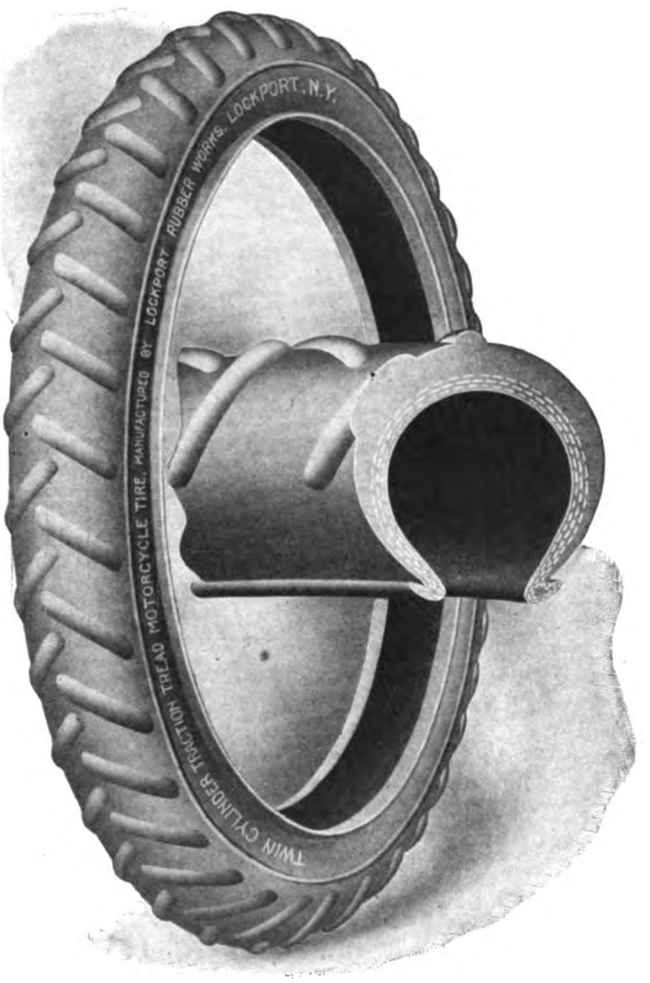
Built For a Motorcycle

TWIN-CYLINDER TRACTION TREAD ANTI-SKID

(Not Built Like a Bicycle Tire)



Traction on the Hill

Traction on the Level

Traction on the Turn

LOCKPORT RUBBER WORKS

Lockport, N. Y.

Kindly always mention the paper when writing advertisers.

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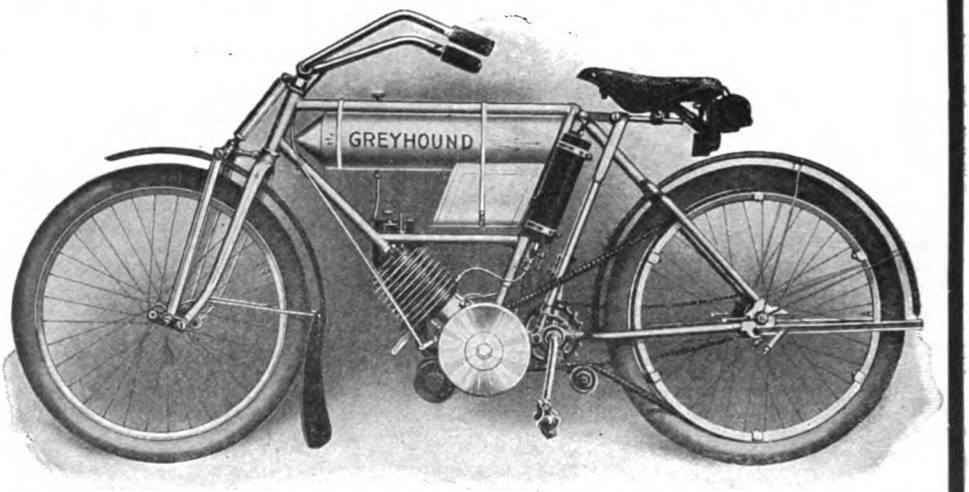
Good Old GREYHOUND

A dealer so prominent as to be almost a national authority writes us:—

"Yours of Mar. 18th, at hand, also the first Greyhound. The operation of this machine speaks well for its makers. I have come to like it better than I anticipated. On setting it up, it started at first kick, no tinkering or fixing of anything. I tried it out, and having ridden every make of machine, during my decade of motorcycle experience, that has ever been shown in this country, I found a combination of easy starting, comfort and speed of all ranges never before combined in one motorcycle."



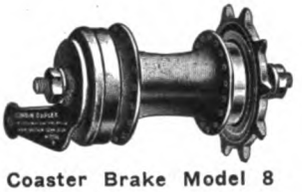
Good to ride—Good to sell. Riders and dealers can get quick information.

THE AUTO-BI COMPANY

1469 Niagara Street **BUFFALO, N. Y.**

CORBIN COASTER BRAKES

Corbin Duplex



Coaster Brake Model 8

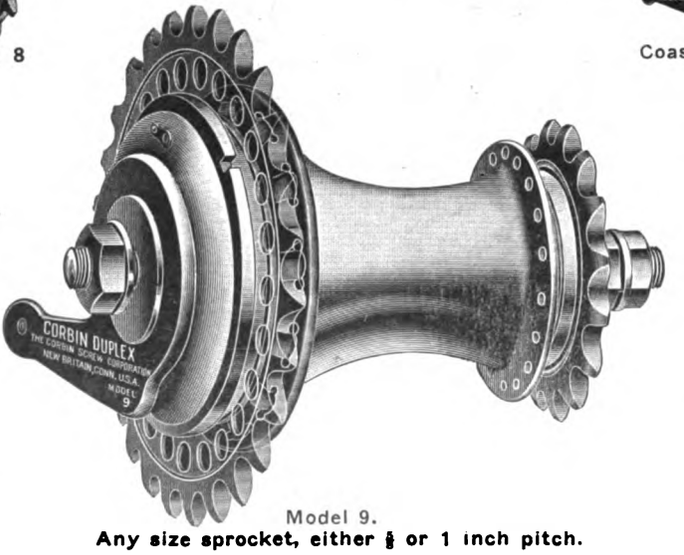
Built Throughout for Motorcycle Use.

½ inch Axle. Larger Bearings, giving longer life.

The Inside Diameter of the Brake Drum is 3 Inches, with Brake Shoes ½ inch wide, giving double the Braking Surface of Any Other Model.

Ask for Model 9

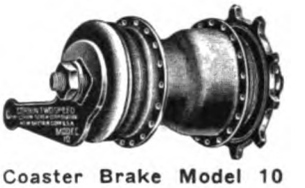
Motorcycle Coaster Brake



Model 9.

Any size sprocket, either ⅛ or 1 inch pitch.

Corbin Two Speed



Coaster Brake Model 10

Model 9 is 5⅜ in. long outside of cones 1 15/16 chain line.

Model 9A is 6⅜ in. long outside of cones 2¼ chain line.

Made for either Belt or Chain Drive Motorcycles.

Heavy Front Hub to match.

COMPLETE CATALOGUE ON REQUEST

Licensed Coaster Brake Manufacturers **THE CORBIN SCREW CORPORATION,** High Street New Britain, Conn.

Kindly always mention the paper when writing advertisers.

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THE MERKEL WINS

The following Telegram tells the Story:

"San Francisco, Cal., 8-29-09

"MERKEL-LIGHT MOTOR CO.

"Merkel Single won Annual Hill Climb, Motor Club, in one twelve, one fifth, defeating_____ _____, and other twins; also established new record for course, making better time than White, Stanley, Stearns, Peerless, Stoddard Automobiles.

"OLLIER & WORTHINGTON."

ANOTHER EVIDENCE OF MERKEL POWER AND EFFICIENCY

WRITE FOR CATALOG

Merkel-Light Motor Co., POTTSTOWN, PA.

THE ONLY MOTORCYCLE on the market that has made a world wide reputation on its own merits is the TORPEDO. Its reputations have been made absolutely with stock machines.

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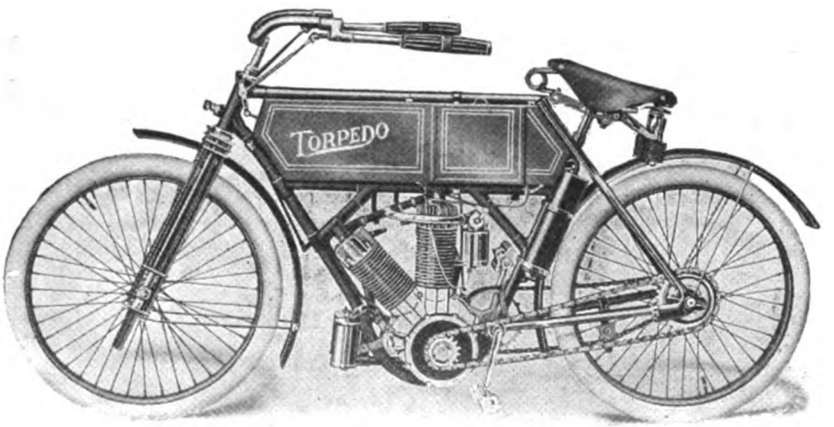

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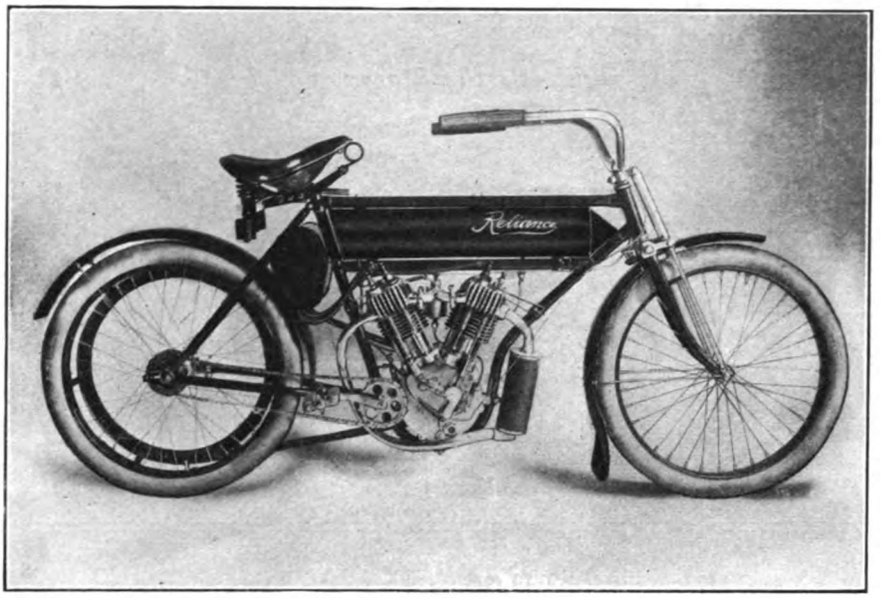

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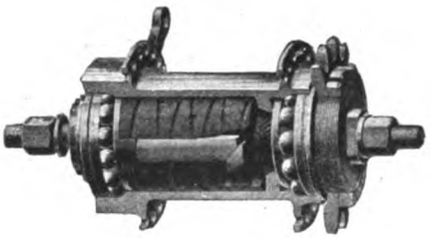
Only Eight Parts, none of which is small, delicate, easily broken or put out of adjustment. THE brake for novice or expert.



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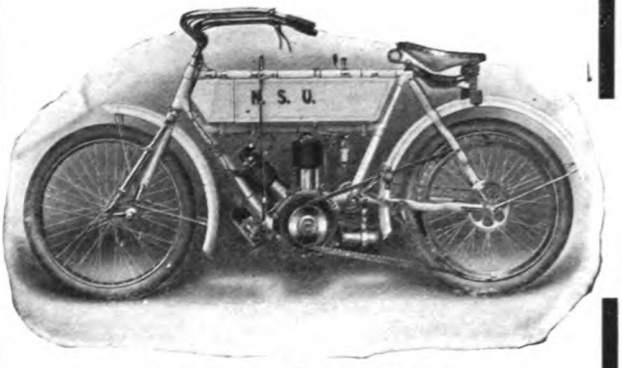

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The course was laid over 160 miles of most awful road conditions with steep hills, rocks, snow and deep mud, and although all the standard makes turned out to show their reliability, owing to the extreme conditions they failed to finish.

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IT SPARKS IN WATER

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This, unlike other similar coils, is designed to be operated on three volts or two ordinary dry cells. Our principal aim in designing this coil was to devise a product which would be small in size and could be operated on two ordinary dry cells, inasmuch as this construction would materially reduce battery maintenance, be much neater in appearance, and require much less space, which at best is limited on a motorcycle.

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The internal construction is radically different from the average cycle coil, and we feel confident that in this coil we have solved the motorcycle coil problem so far as battery ignition is concerned. This coil is made up for both one and two cylinder engines.

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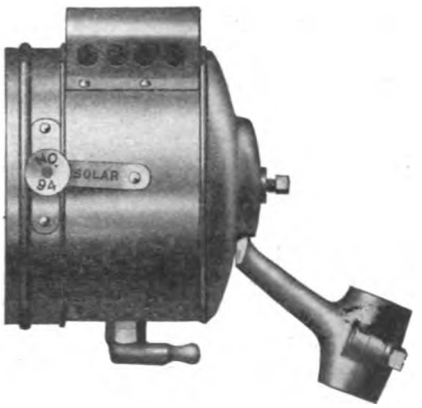

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The motorcycle, equipped with a reliable, efficient ignition system, skims along on the road without skipping or without engine trouble.

A sure hot spark reduces gasoline and oil consumption and increases the life of the motorcycle.

The **IGNITION** system of **QUALITY** is the **PITTSFIELD** system.

Economy of operation, efficiency of result, durability of construction, three factors that make Pittsfield goods standard.

Equip your motorcycle with a Pittsfield system. The difference is Pittsfield Quality.

MOTORCYCLE MAGNETO SPARK PLUG

Mica insulated. Specially prepared electrodes for high tension currents. Afford maximum resistance against melting effect of hottest spark.

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First in the Double Bar Frame, the long Wheel Base, the Vertical Engine with stripped cylinders, the Anti Friction Bearings, V-Belt and numerous other so-called "new" which we have used for years.

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The 1909 models represent a combination of speed, power, strength, durability and simplicity never before equalled.

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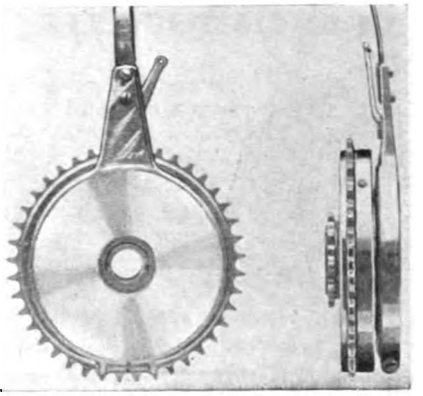

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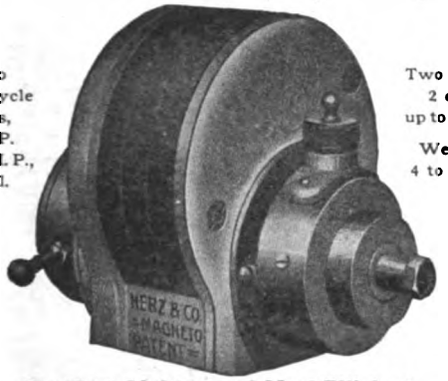
Two Motorcycle types, 3 H.P. and 4 H.P., 1 cyl.



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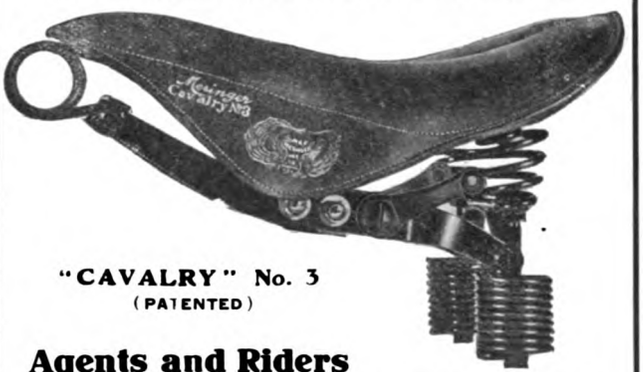

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Consider: If you insist you can have the Mesinger Cavalry or Standard specified as equipment without extra charge.

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MOTORCYCLE OIL LAMP

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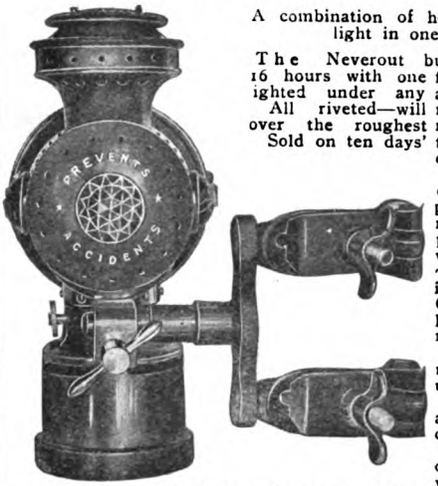

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A combination of headlight and tail light in one lamp.

The Neverout burns kerosene oil and will stay lighted under any and all conditions. 16 hours with one filling All riveted—will not rattle apart over the roughest roads. Sold on ten days' trial. Price $3.00 complete.

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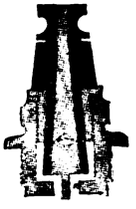

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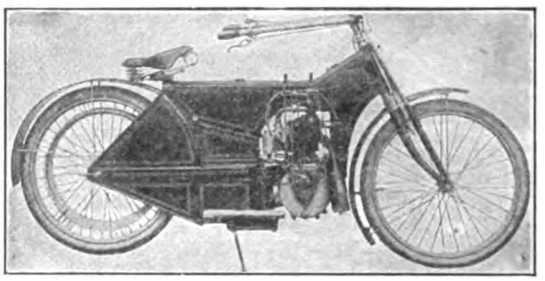

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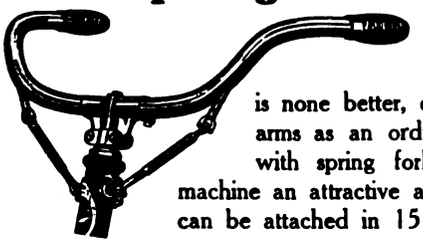

As a shock absorber there is none better, doesn't jolt the arms as an ordinary rigid bar with spring forks, gives your machine an attractive appearance and can be attached in 15 minutes.

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Can be taken apart and cleaned in an instant.

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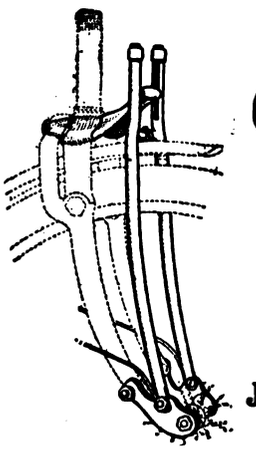

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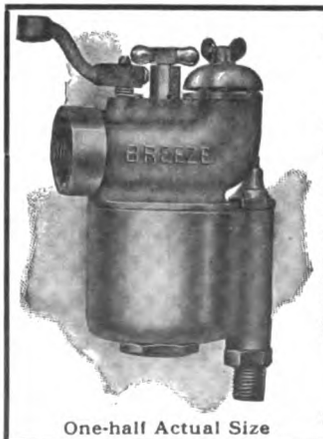

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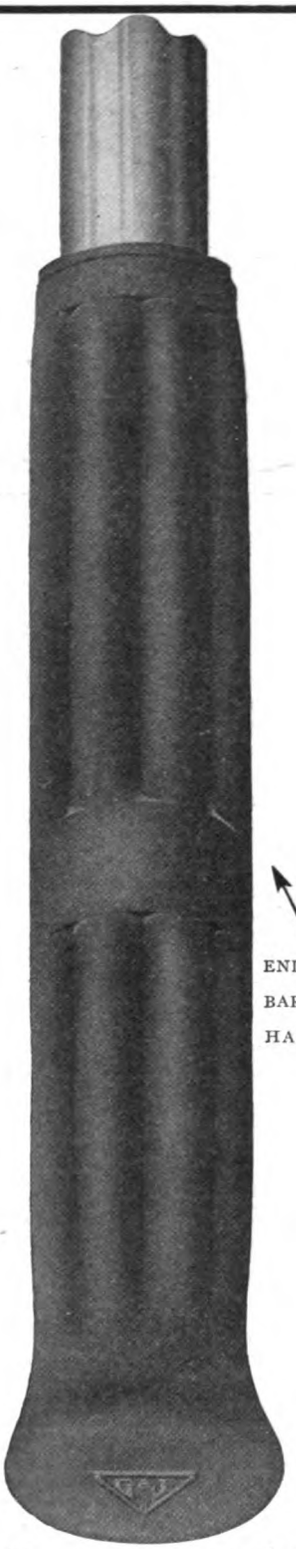

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"Our Bicycle is of the highest "possible grade. There is none "better; there are few, if any, as "good. Nothing that money can "buy nor human effort evolve has "been spared to make the ——— "the very best machine on top of "this grand old earth."

The manufacturer—his traveller—his catalogue—his advertisement, each and all, and many of them, have again and again repeated the claim—the assertion, or whatever they may call it. The language may differ, but its tenor is the same.

PERSONS CHAMPION MOTOR SEAT

LENGTH 13" WIDTH 12¼" DIVIDED THROUGHOUT TO STRADDLE FRAME. PATENT COMPOUND SPRINGS NO FRICTION. SIDE SWAY OR SQUEAKING. AVOID IMITATIONS

TEST ITS TRUTH!!

Too often such claims are empty. They are made up mainly of words, warm breath, and black ink. But there's a way of telling the false and the true—a way of finding out if words are empty or if they mean what they say. There's no question about the quality of **PERSONS** saddles—there never was—there never will be, any more than there is about the LACK of quality in the imitations, and

There's Not a Square Man In the Trade

who does not know it. For objects of his own he may quibble or "talk in circles," but that the **PERSONS** is the very pinnacle of saddle construction they all know and know only too well. Each saddle speaks for itself.

The point is right here: When a bicycle maker or his spokesman asserts the highgradeness of his product—when he asserts that in its construction and equipment no expense or effort is spared—when these claims are made, let the dealer test their truth; let him stipulate that Persons saddles be fitted to the bicycles or motorcycles he orders.

If they are given him without quibble, the dealer may be sure that the claims are true. If, instead, there is a quibble or a refusal, the moral is as plain.

The Persons saddle IS made without regard to cost. Quality is placed above price. The bicycle or motorcycle manufacturer who does likewise cannot refuse the saddle when it is specified.

PUT HIM TO THE TEST

Meanwhile we invite your inquiry.

The Persons Mfg. Co., Worcester, Mass.

Kindly always mention the paper when writing advertisers.

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MOTORCYCLE ILLUSTRATED

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MORE WORLD'S RECORDS

De Rosier at Los Angeles Furnishes New Figures From Two to Twenty Miles. Graves Defeats Huyck—Latter Breaks 10-Mile Record.

NOT satisfied with having hung up four new world's records at the opening meet in the Los Angeles Coliseum, Jake De Rosier established two more world's records, for the ten and twenty mile, respectively, on the same track on Sunday, April 4. De Rosier also made new figures for each distance between two and ten miles. Mitchell, Samuelson and Lingenfelder, mounted on the N. S. U., Indian and Thor, respectively, were entered with De Rosier and Derkum. In the ten-mile professional invitation race, De Rosier's figures were 8.34 4-5, 26 1-5 seconds better than Chapple's performance on the Daytona Beach, and 3 minutes 24 1-5 seconds faster than De Rosier's old figures. In the twenty-mile, the intrepid Indian took a large slice off both the straightaway and circular track records, establishing the remarkable time of 17.01 2-5. In this event, De Rosier made ten miles in 10.24. The following Sunday Huyck rode the distance in 8.12. De Rosier reciprocated by making five miles in 3.56 3-5.

The races opened with an amateur three-mile for fully equipped stock machines of 30.32 or less cubic inches piston displacement, standing start. Erwin Knappe, of the Los Angeles Motorcycle Club, riding an Indian, captured first place, his time being 3.41. Fred Huyck, also on an Indian, was second. M. J. Graves, of the Los Angeles Club, on an N. S. U., was third, and R. Seymour, also of Los Angeles, and riding an R-S, was fourth. The amateur five-mile invitation for single cylinders, flying start, was won by Charlie Balke, who rode a Thor, in 4.49.

One of the most interesting events on the day's program was the amateur five-mile match for double-cylinder machines, flying start, between Graves, on an N. S. U., and Huyck, on an Indian. The competition was keen, the two riders passing one another time and time again, Graves succeeding in winning only by hanging up the fastest time, 4.12 1-5, ever made on a belt-driven machine in a five-mile race. Graves's figures were only four-fifths of a second slower than those made by Huyck in his record-breaking performance on March 14th, when the Chicago rider travelled the distance in 4.11 2-5.

The five-mile motor-paced bicycle race was won by Ray Duer, who followed Mitchell, on an N. S. U. W. E. Samuelson, paced by his brother on an Indian, took second place, and Hoffman, following the pace of Derkum on a Reading Standard, was third.

Next in order were De Rosier's two wonderful performances in the ten and twenty miles, respectively. The first race was a particularly thrilling one for the crowd of 2,000 in attendance. Samuelson repeatedly fouled, once nearly throwing Derkum. He declared afterward that the dust, accumulating on his goggles, had interfered with his riding.

The twenty-mile was more or less of a runaway for the New Yorker, who found it necessary to slow down owing to the temporary impairment of his eyesight. Samuelson was declared out at seven miles for fouling Derkum, their wheels striking and an accident being narrowly averted. Mitchell dropped out at nine miles, Derkum and Lingenfelder finishing second and third, respectively. The races in detail:

With the crowd out of the arena, the trackside clear and De Rosier ready to devour more records, the races went off as smooth as silk. The feature of the amateur contests was the three-time defeat of Huyck, who is the only eastern amateur on the coast. There was but one slow race on the programme, the three-mile for single-cylinder stock machines, fully equipped. Four riders lined up for this and Starter George M. Adair sent them off on a flying start. For several laps Huyck led on his new road Indian, finished in the standard royal blue with high bars. Hot after him was Reading Standard Seymour, also sitting as low as he could on the regular stock R-S machine. Graves had an old red Torpedo, while Irwin Knappe, mounted on the local Indian agent's old Indian, passed one after another of his competitors, winning out by several lengths.

The 4-h., single-cylinder race was changed from ten to five miles. Balke had won in this class at the former meet, and Huyck was anxious to wipe out that defeat, but Balke, on his Thor, was again the winner, though Huyck and Graves challenged him all the way. Balke's time was 4.49, four seconds better than on March 14. The previous race had been a handicap, with Huyck and Balke scratch men.

The third defeat of Huyck was in the five-mile match race, with M. J. Graves, both having doubles of 61-inch piston displacement, Graves riding an N. S. U. Graves made the race from the time the pistol was fired and finally beat out Huyck by a length.

Naturally the greatest interest centered around De Rosier and Derkum in the two pro races. The first was a ten-mile between De Rosier, Derkum, Mitchell, T. Samuelson and Lingenfelder, the latter on a lower powered machine than the rest. From the start De Rosier was after world's records, and it was seen at once that his machine outclassed the rest, for by the end of the second lap the Frenchman had gained half a lap. Mitchell, who was a failure at the first meet, was showing up well on the N.

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Miles.	De Rosier's Time.	Old Record.
1	0.48 1-5	0.47 4-5
2	1.32 2-5	1.40
3	2.28 2-5	2.28 2-5
4	3.17 4-5	3.15
5	3.56 3-5	4.09 2-5
6	5.00	7.23
7	5.49	8.32
8	6.39	9.45
9	7.32	10.55 1-5
10	8.24	11.59
15	12.55	....
20	17.01 2-5	....

S. U., and Samuelson on a big Indian double, borrowed from De Rosier, was riding wild and holding the others from passing. He finally ran Derkum to the top of the lower turn and for a moment everybody expected to see a fatal collision. Derkum's splendid skill and nerve saved him, however. Jake De Rosier maintained his killing gait and finished over a lap ahead, with a world's record time of 8.34 4-5. Derkum was second, while Samuelson beat out Mitchel for third place.

There was much scientific riding in the twenty-mile professional event. Before the start, Referee Charles Fuller Gates warned Samuelson that he would get the flag the moment he began to crowd the others. Samuelson was not familiar with the machine De Rosier had loaned him for the day, and so could not keep it down on the pole, especially on the stretches after leaving a turn. The first mile was hit off by De Rosier in close to 48 and thereafter, right up to ten miles inclusive, he broke record after record. Then the strain began to show on him and he slowed down for two laps because his front wheel was wabbling and his goggles fogged up. Then he pushed off the goggles and tried to find an easier position.

While De Rosier was riding his great race against Father Time, the rest of the bunch was doing things, too. Samuelson had again found it hard to keep down on the track and was crowding Derkum, who was so intent on getting all the speed out of his own machine that he did not know that he had taken twelve spokes out of Samuelson's front wheel when the Salt Lake man had crowded him. The starter had been ordered to flag Samuelson just before the collision; but this was now unnecessary, for Samuelson was trying to get off. Mitchel had already retired. Lingenfelder, on the low-powered Thor, only had to stay on the track to get third money. De Rosier's ten miles were ten seconds better than his record in the ten-mile race, while the other figures, with one exception, between two and ten miles, were well within previous records, as follows:

The summaries:

Amateur three-mile, open, fully equipped stock machines, 30.32 cubic inches, standing start—Knappe (Indian), first; time, 3.41; Huyck (Indian) second; Graves N. S. U.), third; Seymour (R-S), fourth.

Amateur ten-mile invitation, single cylinder, 30.32 cubic inches, flying start—Balke (Thor), first; time, 4.49; Huyck (Indian), second; Graves (N. S. U.), third; Seymour (R-S), fourth.

Amateur five-mile, double cylinder, 61 cubic inches, flying start—Graves (N. S. U.), first; time, 4.12 1-5; Huyck (Indian), second.

Professional ten-mile invitation, 61 cubic inches, flying start—De Rosier (Indian), first; time, 8.34 4-5 (world's record); Derkum (R-S), second; Samuelson (Indian), third; Mitchell (N. S. U.), fourth; Lingenfelder (Thor, 4-h.), fifth.

Professional twenty-mile match, 61 cubic inches, flying start—De Rosier (Indian), first; time, 17.01 2-5 (world's record); Derkum (R-S), second; Lingenfelder (Thor), third. Mitchell and Samuelson also started but did not finish.

The officers were as follows: Referee, Charles Fuller Gates, editor *Pacinc Motoring*; clerk of course and starter, George M. Adair, L. A. Athletic Club; judges, R. K. Holmes, vice-president F. A. M.; Harry Canfield, president L. A. M. C.; S. L. Lyon, trustee L. A. Motorcycle Club; G J. Swinnerton, trustee L. A. M. C.; timers, Dr. E. Schmalzried, L. A. M. C.; C. M. Frink, secretary, L. A. M. C.; Clyde E. Hafer, L. A. M. C., and Carl Johnson; umpires, O. D. Stanton, L. A. M. C.; F. F. Brunner, captain, L. A. M. C.; marshal, Gus Fink, H. H. Day, Fred N. Yale, George W. Hood.

On Sunday, April 11, two more records were smashed, De Rosier riding five miles in 3.56 3-5 and Huyck covering ten in the remarkable time of 8.12.

Two N. S. U. machines, tuned to the minute for the races which took place at Los Angeles a week ago Sunday. were dismantled by a thief some time during Sunday or Monday night previous. The machines, which were the property of C. L. Smith, were stowed in a barn near the Prince Coliseum, Sixty-third and Main streets, Los Angeles. Some mechanic who thoroughly understood the mechanism of the machine, broke into the barn through a back window and stole several parts of the two racers. Several other motorcycles and racing bicycles which were stored in the same room were unmolested and no property, other than the carbureters and oil pumps of the N. S. U. machines and tools and extra valves for them, was taken.

FAST riders are eagerly awaiting the opening of the new saucer track at Fiesta Park, Los Angeles, billed for April 25. The track will be double surfaced, smooth as it is possible to make it, and should be fast. It will be five laps to the mile. Races on this track will have the sanction of the National Cycling Association and also of the Federation of American Motorcyclists whenever an exclusive motorcycle meet is held. Work is being rushed on the big track and when the saucer is completed it will be possible to race at top speed over the boards. The course is to be inclosed by a brick wall.

Manager Pickering stated yesterday that the work will be completed in about a week. There are several advantages which the Fiesta Park course will have over any other. It is closer to the center of town, and can be reached by several fast car lines. No one will be allowed inside the track when races are in progress.

The pine strips that are being used are surfaced, and the floor of the course is splinterless. There is every reason to believe that the Fiesta Park track will be exceedingly fast.

MOTORCYCLE races during the San Antonio, Tex., International Fair are being promoted by local and outside owners. "The town of Temple has gone motorcycle mad," said C. E. Winn the other day, "and Waco is right with us in the fever of racing. That these two could furnish attractions at the fair connection with the San Antonio talent is assured. All we want is the chance and a few days' notice."

The Fair Association has been figuring on attractions along these lines and Secretary J. M. Vance acknowledges that the association has about determined to include events for motorcycles in the Fair program, for one day at least. As soon as the subscriptions are all in the management will start in to bank the racetrack for motor races, raising the turns to a height of six feet above the level.

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COMING EVENTS

Apr. 18—N. Y. Club Run to Roslyn, L. I.
Apr. 18—First Run of Chicago Club.
Apr. 19—Massachusetts Run.
Apr. 25—Spring Endurance Run of the Linden Motorcycle Club.
Apr. 25—Los Angeles Club Meet.
Apr. 25—N. Y. Club's Field Day at Morris Park.
Apr. 29—Indiana Club's Endurance Run.
May 1—Opening of Salt Palace Track, Salt Lake City.
May 9—New York Club's Runs to Southampton and Patchogue.
May 22—Philadelphia Race Meet.
May 29—Harlem Club's Run.
May 29—Dayton Club Meet.
May 30—Los Angeles Club Run.
May 30—Fisher Trophy Run, Chicago.
May 30—Beverly, Mass., Club Hill Climb.
May 30—Proposed Opening of Chicago Track.
May 30-31—New Jersey Club's Run.
May 30—Fort George Hill Climb.
May 30—Chicago Club's Gymkhana.
June 3—New York Club's Second Trial.
June 8—Danville, Ill., Hill Climb.
July 5-10—English Reliability Trials.

ST. LOUIS, Mo.—Under the auspices of "St. Louis Motorcyclists" a series of races will be conducted Sunday, April 18th, on the one-half-mile track at Priester's Park, Belleville, Ill. The track is being banked at the turns, and Carl Bahnsen, manager of the meet, is of the opinion that it will be very fast. The motorcycle events include a five-mile race for single-cylinder machines, a two-mile competition for single and double-cylinder machines and a one-mile free for all, single or double-cylinder machines, flying start. Bahnsen has secured an option on the track for the season, and he intends to conduct a number of meets throughout the spring and summer.

AMONG the events to take place in the near future under the auspices of the New York Club are the following: April 18th, run to Roslyn, L. I.; April 25th, Field Day at Morris Park track; May 2nd, run to New Brunswick, N. J.; May 9th, single and double century runs on Long Island; May 30th, Fort George hill climb.

THE Los Angeles Club meet, which was postponed March 28th, will take place the 25th of this month. The recent rain warped many of the boards, and the management decided to defer the meet until the track had been thoroughly repaired.

WORD comes from Butler, Pa., that on a stretch of macadam road north of that town, Edgar C. Huselton travelled at a rate of seventy-five miles an hour on a four-cylinder Pierce.

ACCORDING to the latest information obtainable, Robert Hellmich, the globe-girdling Belgian, is in Alabama, having just left Birmingham for Atlanta

LOGANSPORT, Ind.—The hill climb held at Morgan's Hill April 1, which was the opening event of the Automobile and Motorcycle Show here, was a complete success. Great crowds thronged the course, and it was with difficulty that the officers kept the enthusiastic spectators off the road and out of danger.

In the motorcycle climb, George W. Lyon, who rode an Indian '09 stock twin cylinder, met with an accident at the start, and was thrown from his machine. Lyon was up immediately, however, and came back to the tape for a fresh start. Owing to his pedal having been bent under the motor by his fall, he got a poor start on his second attempt, but managed to win the race easily, making the climb in 31 seconds. Mr. Plumbo, riding a 3½-h. Indian, was second, an Excelsior machine third and a 2¾-h. Indian fourth.

THERE were three entries in the five-mile professional race which took place at the opening meet of the Newark Velodrome on Sunday afternoon, April 4th, 1909. The race was won by Schultz, on an N. S. U., Hunter on an Indian being second. King, who rode an M. M., after having lost a half lap, slipped and fell coming in on the homestretch in the eighth lap. He and his machine, however, were pulled out of the way just in time to prevent a serious accident. Hunter won by fifteen yards, the time being slow, 6.29 3-5.

H. F. MERRIWETHER, riding from coast to coast, is now in Kentucky. From Louisville, he will proceed to Indianapolis, Toledo, Cleveland, Buffalo, Albany and thus to New York. Merriwether is not making the trip with a view to speed, but for pleasure. He left San Francisco in November and instead of hurrying from one city to another, he spends several days at each, taking in the sights. Thus far he has used only one pair of tires, the Morgan & Wright, in spite of 900 miles on railroad ties.

AN Excelsior, ridden by E. Callaway, captured first place in the recent hill-climbing contest at Atlanta, Ga. Callaway's time was 1.13 2-5, the hill being seven-eighths of a mile long. The other riders, their mounts and figures were as follows: G. B. Sisson (Excelsior), 1.22 2-5; Hugh B. Moss (Indian), 1.25 4-5; J. S. Wynne (Excelsior), 1.45. Callaway, making a second ascent on a Yale, was timed at 1.27 2-5.

A FEATURE of the hill-climbing contests, held in San Francisco recently, were the exhibition miles made by several of the two-wheelers. The best speed of the day was made by a Merkel, which went the distance in 1 minute 12 1-5 seconds, just one-fifth of a second slower than the time of the White auto. Three other riders tried to lower this mark, but were unable to take the honors from the Merkel.

FOLLOWING an automobile hill climb in San Francisco, Cal., recently, four of the motorcyclists made exhibition ascents with the following result: L. C. Heise, 4-h. Merkel, 1.12 1-5; W. G. Collins, 5-h. Indian, 1.13; L. P. Peterson, 6-h. Curtiss, 1.22 3-5; H. Lorenson, 5-h. Indian, 1.42 2-5. The best time made by an automobile was 1.12 2-5.

TWO of the eight events which will make up the three days' program of the Lookout Mountain hill-climb, which opens April 22d, will be for motorcycles, for machines of less than 30½ cubic inches piston displacement and for those within the 61 cubic-inch limitation, respectively.

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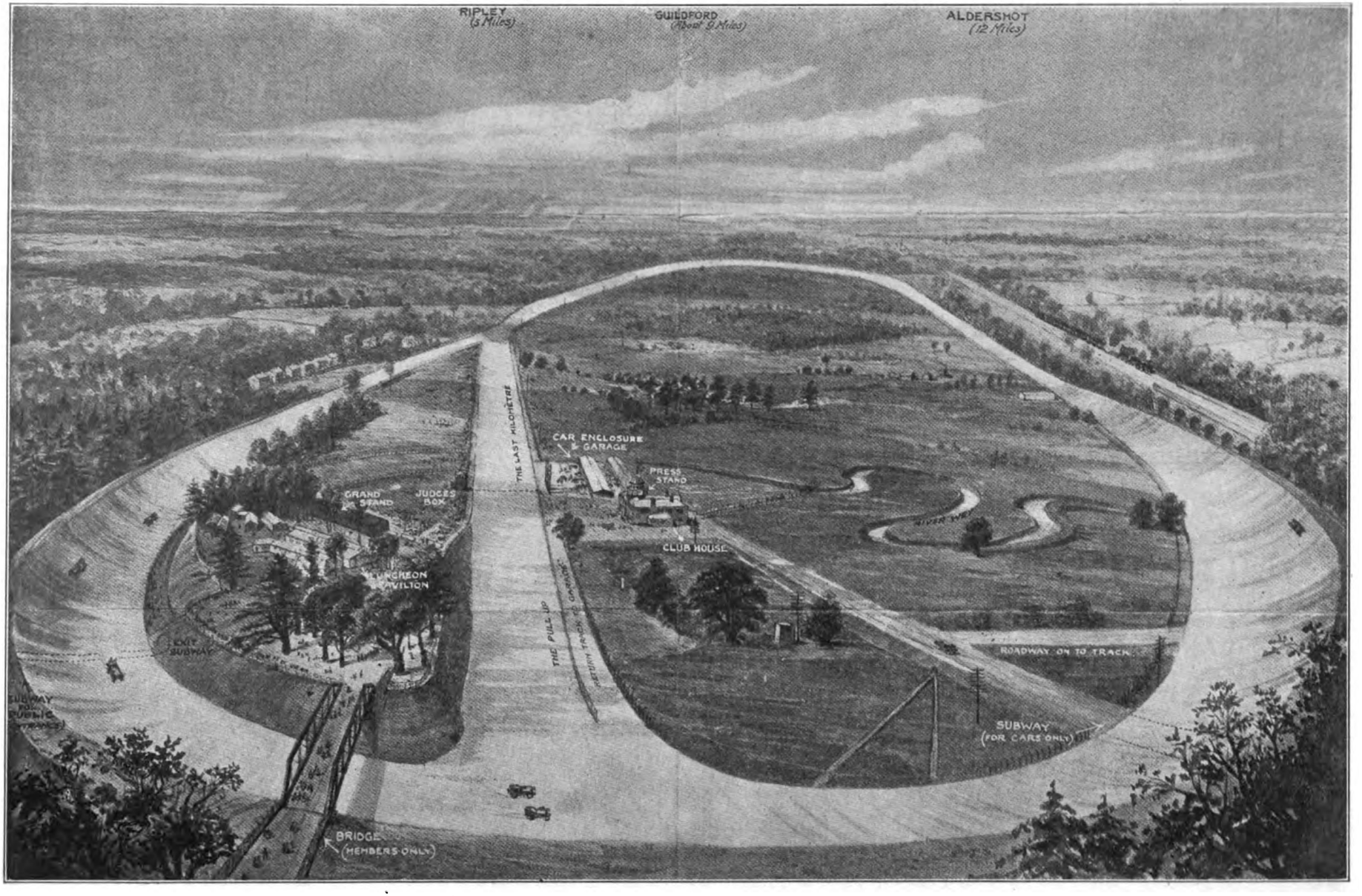

Birds-eye View of the Brooklands Track, 3¼ Miles to the Lap, 100 Feet Wide

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BROOKLANDS—ENGLAND'S FASTEST TRACK

THE Brooklands track, situated in the heart of lovely country some twenty miles southwest of London, is the property of a private company, run as a subsidiary branch of the Royal Autmobile Club of Great Britain and Ireland. It is chiefly the enterprise of a single man, Mr. Locke-King, of Weybridge, a rich and enthusiastic motorist, who, with the help of a few friends, provided England with this splendid track, practically at his own expense, and expecting no financial return, as the weekly outlay on the track is supposed to total up to a sum largely in excess of the income accruing from it.

The track was completed in June, 1907, and ever since a race meeting has been held on it about once a fortnight during the summer season. These meetings are conducted on exactly the same lines as a horseracing meet, and have produced a vast amount of exciting and instructive sport. The entries have never been as large as was originally expected. At the first meeting a cash prize of £2,500 was offered in a single race; but as it is the exception for twenty cars to figure in any event, and as $100 has been found to be as big an entry fee as most firms or individuals will pay, the prizes have been greatly reduced, and a piece of plate of comparatively small value is now the usual reward of victory.

The most popular events are the handicaps, in which cars of all sizes compete together, each being allowed a start of so many minutes, according to its horsepower, on the basis of the R. A. C. rating table, while penalties are incurred for every recent success. In addition there are four standard classes of cars on the same rating, viz.: 26-h., 40-h., 60-h. and 90-h for which races are held once a month, while any firm may enter a car for the half mile sprint or ten lap record under each of the above size limitations.

The motorcycle races secure by far the largest entries, often as many as fifty of these little machines competing in a single event. The track was first of all boomed by three Napier cars, which made simultaneous assault on the twenty-four-hour record, all three beating existing records, the fastest averaging sixty miles an hour for the whole time; but the residents in the neighboring town of Weybridge complained of the noise disturbing their rest, and further attempts have been forbidden in order to avoid a lawsuit.

The cut herewith shows the general arrangement of the track. All races are run counter-clockwise, and consist of a variable number of circuits, concluding with a finishing dash down the straight which roughly bisects the oval. The manner of signalling to the cars that they have covered their distance and must turn into the straight is peculiar and threatens accidents, though it has never produced one. At the fork where the straight leaves the oval (at the end remote from the club house and winning post) is a tall post, on which a huge red disc is hoisted just as the leading car approaches, with only the straight to complete. It is obvious that a smash would surely result should two cars approach the fork simultaneously, one having another lap to do, and the other being due for the straight. There is no method of signalling to each separately, and even could that be done, their tracks would intersect at the fork. However, this difficulty has only arisen once in actual practice.

The B. A. R. C. have steadfastly refused to publish the full curves and contours of the banking, which were evolved with very great labor by Colonel Holden, of the R. A. C., and his assistants; but a rough notion of them is obtainable from the fact that the steepest tilt on the shortest curve is a rise of 28 feet 8 inches across a width of 100 feet, which gives the cross banking of the track at that point a grade of approximately 1 in 3½. The cross curve stiffens toward the top, and just at the lip of this particularly curve is almost as bad as 1 in 1. In actual practice, the cars seldom swirl close up to the lip even at speeds of 115 miles an hour and over, and no car or motorcycle has ever yet approached the point of being too fast for the track. Several accidents have taken place, quite apart from collisions, but owing to their instantaneous nature it has never been quite certain how they occurred, the cars being reduced to a heap of scrap-iron, and usually catching fire immediately afterward. Probably steering gear failures and burst front tires account for two or three, and one at least was probably due to a bad swerve on the driver's part as he descended from the steep banking onto the level straight. The cars often leave the ground bodily at this point, when 100 miles per hour is exceeded.

The track is well fitted with garages, repair shops, lock-up paddocks, etc., and an aeroplane practice ground is now being laid out on a marshy tract near the far end. Natural hillocks provide fine terracing for the public grand stands, and a test hill is now in progress of construction beside the stands. The hill will be too easy to have much value as a flyaway run, for it will only be 114 yards in length, and contain gradients of 1 in 8 up to 1 in 5, finishing with forty-four yards of 1 in 3. It will be largely employed for restarting tests.

The track is largely employed for technical tests, such as dust trials, acceleration tests, wind resistance tests, the effect of dead weight on acceleration, tire trials, and the like. The track's principal dimensions are as follows:

Length of circuit (inner edge), 2 and 11-16 miles. One lap, plus finishing straight, 3¼ miles. Mean radius of shorter curve, 1,000 feet. Mean radius of longer curve, 1,550 feet. Length of flat finishing straight, ⅝ mile. Length of level in one circuit, 2 miles. Gradient of approach to short curve, 1 in 30. Down gradient from shorter curve, 1 in 25. Width of course, 100 feet. Maximum height of bank on shorter curve, 28 feet 8 inches. Maximum height of bank on longer curve, 21 feet 10 inches. Number of stopping bays for disabled cars, 7.

The material is concrete block, similar to the kind used for street paving, where ordinary flags cannot be obtained. These wear well, and very little trouble has been experienced.

PRINCE FRANCIS OF TECK has been re-elected president of the English Auto Cycle Union. Vice-presidents have been re-elected as follows: Hon. A. Stanley, M. P.; Marquis de Mouzilly St. Mars, Professor C. V. Boys, Messrs. H. C. Callendar, E. Dangerfield, S. F. Edge, Mervyn O'Gorman, Colonel Holden, Mr. G. F. Sharp, Dr. Hele-Shaw, Messrs. Robert Todd and A. J. Wilson.

T. E. LINDEN, of the Spokane, Wash., Club, announces that he will leave that city May 1, proceeding eastward in an effort to ride around the world.

SEVERAL Pittsburg riders have expressed their intention to take part in a trip to Indianapolis this summer. It is planned to leave Pittsburg and make the run to Wheeling, W. Va., the first day; then across Ohio to Dayton, and thence to Indianapolis. Chicago will be visited after the convention, and the Pittsburgers also hope to see Detroit and, crossing into Canada, make the run to Toronto and home again by way of Buffalo and Erie. The trip, as laid out by L. M. Johnston, of the Motorcycle Exchange, will cover approximately 1,200 miles, and it will be open to all who are willing to abide by the rules.

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THE A. B. C. OF MOTORCYCLING

Part IV. A Few More Constructional Details—Frames, Wheels and Tires—Means of Control—How to Equip a Machine.

ROLLAND C. LAURIE

UP to the present I have dealt with the engine and its construction, the carbureter and the two forms of ignition. There remain a few points in general construction upon which I will lightly touch; after that is done I purpose to proceed to the different adjustments needed to keep the motorcycle in good running order, for such is the ambition of every rider. Time after time, in my past observations on the road, have I observed the fact that rarely do two riders of the same make of motorcycle get the same results out of their respective mounts. This fact is easily accounted for, for one rider *knows* his mount and the other has not taken the trouble to learn the particular idiosyncrasies of his machine and, generally speaking, he does not drive his motorcycle scientifically.

Remaining Constructional Details. — Purposely, oh younger brother, have I taken the more complicated mechanism first of all, so that the essential parts of the motorcycle have been presented in rotation, according to their educational value to the novice. We have left the tanks, the frame and wheels, the levers and the brakes. Also, I find in dealing with ignition details, that I did not touch upon the construction of that vital part, namely, the spark plug. Practically speaking, a general classification of spark plugs is sufficient; they are all built on the same principle, although occasionally we come across slight variations in the disposition of parts. A spark plug consists first of the terminal to attach the secondary or high-tension cable. This brass terminal connects with a wire of German silver, which runs down through the body of the plug to one sparking point, or electrode, this wire being insulated by a core of porcelain, or mica, throughout its entire length, to about one-quarter of an inch from the sparking point mentioned. In the more expensive plugs the electrodes are platinum tipped. The core of porcelain or mica is contained in a shell which has hexagon sides and a thread at the end to screw into the cylinder. The porcelain core rests upon two copper and asbestos gaskets and has a "shoulder" moulded upon its surface. The shell which screws into the cylinder has an internal thread at the top, and a brass nut is screwed into this; this nut bears upon the shoulder of the central core and, when tightened up, screws down upon this core shoulder, forcing it down upon the gaskets, thus making a perfectly gas-tight joint. At the base of the shell, which screws into and makes direct contact with the cylinder, the other spark point or electrode is fixed. A point to remember in buying spark plugs is that there are two types of thread still manufactured, although it is believed that in a few years the thread will be standardized throughout the world. Still we come across instances of both metric and "pipe" thread and I have even found both threads in use in motorcycle construction, particularly in continental machines. All that need be noted in addition to the foregoing is that the rider should occasionally renew the gasket on the cylinder head, where the plug shell screws in, so that the engine may be kept compression tight; and also clean the plug points now and then, to free them from any sooty deposit. An old toothbrush dipped in gasoline is a useful thing for this purpose and the points can be brightened with a little emery cloth, care being taken not to disturb the adjustment of the electrodes.

Tanks and Piping.—We find instances where tanks for gasoline are made in two compartments, so that in case of any chance damage through a spill, only one side will leak. Twice in my riding experience have I damaged my tank so that I was stranded. More generally speaking, we have the gasoline compartment in one single tank, with a smaller section of this tank partitioned off for the lubricating oil. The "filler" for the gasoline is fitted with an air valve, which admits the air and does not allow the gasoline to splash out. This air valve is for the purpose of allowing the gasoline to flow freely to the carbureter, as, were it not fitted, an "air-lock" might occur in the tank. At the outlet pipe which runs to the carbureter a gauze is fitted to prevent any foreign matter from getting into the carbureter, and thus causing trouble by stopping up the jet. In most motorcycles the gasoline pipe has a downward dip before running up to the carbureter; in some cases a loop is formed. This is to collect any chance matter which has got into the pipe; so it need hardly be pointed out that this pipe should be occasionally flushed by detaching it from the base of the carbureter, turning on the gasoline for a second and allowing it to be drained out. Occasionally, we have a thoughtful manufacturer providing for this by fitting a drain tap in the pipe. I remember seeing a continental make, the Zedel to wit, fitted with this device, and in addition with a carbureter which had a quick-cleaning jet of such a design as to make for great comfort to the rider. It may be noted that both the gasoline and oil pipes are fitted with a fastening screw nut inside of which is a leather washer to ensure a tight joint. If any leakage ever appears, renew this washer, but do not make it of rubber, as rubber is soluble in gasoline, and in time the sticky solution will get to the carbureter and cause trouble and heartburnings.

Frames and Wheels.—The frame and forks next claim our attention. Forks are of two varieties, rigid and spring. The latter tend to give the sport an additional pleasure by minimizing the bumps and hollows of outrageous roadways (sounds like Hamlet's soliloquy, that bit!). If the spring fork is of the plunger variety, its parts consist of a plunger, mainspring and a recoil spring, all working inside a tube. An arrangement such as this is almost universal, and such a device is, in every way, practical. All that is required to look after this device is oil—a few drops occasionally will give a longer life to the frictional surfaces. We have also examples of spring frames, one being the cantilever saddle post, as used in the construction of the Greyhound, the British Rex and in a different form in the Bat, of the same country, and the spring frame as used in the Merkel and the foreign Zenith. Otherwise we have the infinite variety of diamond frames fitted with well-sprung saddles and occasionally with spring saddle posts in addition to this.

Wheels are of two diameters, either 26 inches or 28 inches being employed. In the twenty-eight-inch wheel we get, of course, a slight increase in ground clearance and a little less vibration, whilst in the twenty-six-inch wheel we have a stronger and more compact construction. The tires are usually either 2¼ inches or 2½ inches in diameter, the latter being preferable because of the fact that they give less vibration and are, of course, slightly stronger in both tread and fabric.

It would be impossible to give the different wheel-base measurements used in the various designs, but the general tendency in frame design is gradually making for a long wheel base and a low center of gravity, as this form of construction ensures greater stability and minimizes the chance of sideslip and, last but not least, makes the machine give far less vibration.

The drive is either by belt, shaft or chain and care should always be taken to keep the back wheel in line, no matter what form of drive is used. Either V or flat belts are used, and after a lengthy trial of both I can safely say that the V belt is bound to win the day in the end. Flat

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belts are generally made of rubber and canvas; sometimes a spring-tension jockey pulley is employed to keep them tight. The V belt gives an "elastic" drive, does not slip; in fact, is good in every way *providing* the pulleys are right and that the belt is kept clean, whether it be of rubber or leather.

The chain drive usually has a spring friction drive on the rear hub to allow a certain slip so as to make the drive less positive, for the comfort of the rider and the longer life of the back tire. Shaft drive is used on the F. N. and Pierce and, being protected by a weatherproof casing, is fine for bad weather riding and can be recommended to the rider who uses his machine daily for business purposes, irrespective of rain and mud.

Control Levers, Twisting Grips, Etc.—Modern tendency leans toward grip control, but as the novice may have purchased a second hand mount, perhaps a year or two old, I will first explain the functions of the various levers. Two levers run to the carbureter—one for the throttle control and the other to the airslide, which adjusts the mixture. Occasionally we have the air adjustable from the top of the carbureter; in this case the operating lever is done away with. Then there is the spark advance lever, while in a very few cases there is a lever-operated cut-out fitted to the muffler. A switch is always fitted to battery ignition models and often to magneto machines. The purpose of this is to switch the electrical current on and off as the rider desires.

With the twisting grip control the rider need not let go the grip with one hand to reach the levers, as a mere twist of the wrist operates the various functions through the medium of rods or wires according to the dictates of the manufacturer's fancy. One grip serves to operate the throttle (and extra air in some cases), whilst the other looks after the spark-advance action.

This completes the principal constructional details of the motorcycle. The fittings which are common to all forms include the saddle, mudguards, coaster brake, etc. Do not neglect in any way the bicycle parts of your motorcycle just because an engine is doing all the work for you. Oil the hubs with good lubricant and keep the bearings adjusted properly, and occasionally flush out and oil the coaster-brake mechanism or some day you may find it seize. Keep the tires pumped up hard.

Equipment.—Before I close this chapter I will touch upon the kit and other necessary equipment which go with the motorcycle. Let me impress upon my readers that "the best is always cheapest." When visiting the accessory store get first class articles and you will be satisfied. First, there is the stand, which is used for jacking up the rear wheel. Choose one, if possible, that bolts to the back fork sides, because they allow the rear wheel to be taken out, if necessary, still leaving the machine jacked up, thus making for great handiness and convenience in every way. As to the horn, get a good, solid one with a deep, *long* note, as that is best for road-clearing purpose, bearing in mind that the clips with which to attach it to the handlebar should be substantial and broad, so as to gain a large contact surface. Horns with inadequate, narrow clips have a most irritating way of slipping round on the handlebar and eventually jolting themselves loose. A good plan to fix the horn firmly to the handlebar is to wrap a thin strip of emery cloth round the bar first, then fix the clip firmly over this, the emery side making contact with the handlebar. This wrinkle will effectually prevent the horn from slipping out of position. A luggage carrier can be counted as a necessity in the equipment, as it will always come in useful. Get one with strong side stays, as when loaded the swaying action of an ill-stayed carrier will soon put it out of commission.

In buying a lamp get a good, powerful headlight and there will come a time when you will bless your forethought. The separate generator type of headlight can be recommended highly, as this type does not jar the lamp bracket to pieces. I favor the carrying of two bags, one for easily damaged spares and one for the heavier tools. In one bag, which can be attached neatly to the carrier on the right hand side (so as not to interfere with mounting) I carry one spare inner tube of the "butted" variety. The use of butted tubes which are not of the "endless variety" allows for a quick replacement tube without removing the back wheel. In the same bag a spare spark plug, contact breakers, valve springs and spare belt fasteners may be carried. In the other bag first pack spare valves, a piece of extra belt, some copper wire and a roll of insulating tape. A few assorted nuts, bolts and washers will also come in very handy in cases of emergency. The tool kit should contain the following: One large wrench, one small wrench, one screwdriver, and perhaps a small one for contacts, etc.; one pair of pliers, a set of tire levers, a belt punch, or, in the case of a chain-driven machine, a spare link or two. The minor tools which the makers usually supply will complete the list. Added to this outfit comes the tire pump, which should be large and powerful. An airtight, long tin for carrying carbide will also be found handy for a tourist.

As to costume the most comfortable will be found in knickerbockers and well made leggins over stout boots. This gives a neat finish to the rider and is neither cumbersome nor as draughty as "college cut" pants. A thick vest and coat and a waterproof storm coat and light summer dust coat (short) of "pongee" are "comme il faut" (as the New York *Herald* would say); gauntlet gloves and storm cap bring the list to an end.

In my next sermon I will proceed to "tuning up" and "running adjustments." In the meantime, beloved brethren, pray for the overworked scribe, for, verily, his carbureter runneth dry!

SEEKING TO DEVISE A PRACTICAL ALCOHOL MOTOR

GOVERNMENT experts of three nations—the United States, France and Germany—have been engaged in an attempt to devise a workable alcohol motor, but it has remained for the engineers at an American automobile factory to produce one that has been put on the road and run over hundreds of miles, getting as much work per gallon out of the alcohol as is obtainable from gasoline.

This alcohol motor, which was sent out some months ago from the Franklin factory, has since been used in the propulsion of a Franklin motor cab about the streets of New York. So far as work is concerned it is a commercial possibility, a matter concerning which heretofore there has always been more or less skepticism.

It only remains for the makers of alcohol, by more economical methods of production or otherwise, to bring the price of their product down to that of gasoline to make the alcohol motor car an everyday rival of the gasoline car. That this is at least a possibility is indicated by the fact that the extensive use of alcohol in a commercial way is new and that as in the case of any new product there is bound to be development in manufacturing methods as well as in use.

Repeated tests before the alcohol motor cab was sent out from the factory showed that it could cover as many miles on the same amount of fuel as a gasoline car, and this is the really important factor in the introduction of the new fuel.

In all the experiments with the alcohol it has been found that a noticeable feature was an absolute lack of signs of overheating, both when the motor was running on a test block and when it was running on the road.

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THE Massachusetts Motor Club and the Commonwealth Motorcycle Club are promoting a gigantic run into Worcester, Patriots' Day, April 19th. Everyone riding a two-wheeler is invited to attend. Franklin Hall, 554 Main street, Worcester, in the center of the city, has been engaged for the banquet to be given free to all attending, and the well known caterers, Rebboli Brothers, will serve the following menu and guarantee that no one will go away hungry:

Roast Chicken.
Cranberry Sauce Peas Mashed Potatoes
Chicken and Fruit Salad
Rolls
Harlequin Ice Cream
Assorted Cakes Pound Cakes
Coffee and Cigars

The hall has numerous, good-sized anterooms where riders may congregate before the feast. There are numerous garages and three motorcycle agencies where machines may be left, and free gasoline and cylinder oil will be furnished and put into the machines while the men are at the banquet.

Considerable rivalry has developed for the possession of a handsome silver cup which has been put up to become the property of the club delivering the largest number of riders enrolled in their run to Worcester, and the banquet hall. The cup stands eleven and one-eighth inches high and cost $50. It is now suitably engraved, awaiting only the name of the winning club.

The rules for the run as as follows: A regular schedule will be maintained, not to exceed an average speed of fifteen miles per hour; no rider will be allowed to pass the road officers; machines without mufflers or used with open cut-outs absolutely prohibited; riders disregarding the rules will be disqualified.

The Providence run is in the hands of Messrs. Hirah G. Baxter and B. A. Swenson, and the Springfield run will be attended to by Messrs. George A. Tuckey and B. S. Barrows.

Those intending to be present are requested to drop a postal to that effect to either C. E. Smith, 39 Fairfield street, or W. F. Mann, 1000 Boylston street, Boston, Mass., so that proper arrangements may be completed for caring for all. It is expected that at least three hundred men will participate and make the largest and most enthusiastic gathering in the history of motorcycling in New England.

President Ovington, of the F. A. M., has been invited to attend and will undoubtedly be present and liven up the doings with a few remarks.

P. S.—The Vacuum Oil Company has donated a barrel of their justly famous cylinder oil to be distributed to the riders at Worcester, so that all may be assured of an absence of trouble on that score on the return trip.

MANY FINE NEW ROADS IN THE EMPIRE STATE

WITH fine state roads running practically all the way from Albany to Buffalo, riders are looking forward to some pleasant trips during the summer months. There are now good roads from Utica to Syracuse, a distance of fifty miles, and with a few interruptions from Syracuse to Rochester, a distance of eighty-one miles. Other trips that can be made over the new roads are from Syracuse to Watertown, Oswego and Ogdensburg on the north, to Auburn west of Syracuse, and to Cortland and Binghamton on the south. Within the boundaries of the country are some fine stretches of road built jointly by the state and county, leading to the various lake resorts. The Cicero-South Bay road, now under construction, leads to Oneida Lake and will soon be completed. Another road leads to Brewerton, another point on Oneida Lake. Then there are good roads to Jordan and Cross Lake, Tully Lake and Skaneateles and Otisco lakes. Three and one-half miles of road is being built from Manlius to Chittenango at a cost of $27,900, and six miles from South Onondaga to Vesper at a cost of $57,000. Five miles of the Syracuse-Cold Spring road will cost $55,000, the Cicero-Brewterton-Oneida Lake road $55,200, and the Syracuse and Bridgeport road, the latter a third point on Oneida Lake, which is sixteen miles long, $88,500. The road south to Cortland extends through South Onondaga and the Onondaga Indian Reservation. All of these roads are of trap rock or limestone surface, smooth as asphalt and easier for riding. Through the adoption of a map designating a system of improved roads the Legislature practically determined that Onondaga County was entitled to 243.23 miles of highways as a part of the state system, and the most of this has been completed, excepting perhaps 34.75 miles, surveyed but not built. The total appropriation for all of the roads was $304,250.

In accordance with a plan to adopt the patrol system for the maintenance of the roads some 180 patrolmen, each to have a horse and cart, will be assigned by the new Highway Commission to look after the repair of a certain number of miles of roads. This system involves an expense of $60 per year per mile of road. It has been successfully carried out in Massachusetts and in foreign countries. In this way much repair work is made unnecessary or diminished by keeping the road free of holes and in A1 condition.

AT this stage of motorcycle use the agent must lead. His store must be half-club. He must organize runs, hill-climbs and such. If he is himself too busy to undertake this, he must have in his employ an executive, genial chap, a leader, a rider for fair. In most neighborhoods the motorcycle agent is the *heart* of the motorcycle business, and if he is a feeble, cold man, the motorcycle movement dies, or at least stagnates. Get busy planning springs runs, tours and what not.

PHILADELPHIA, Pa.—The Philadelphia Club will conduct a race meet at the Point Breeze track, May 22. Proprietor McAnany has agreed to bank up the two bad turns in order to make the course suitable for motorcycle racing. Stanley Kellogg is authority for the statement that this improvement will make the track one of the fastest in the country. The various agents throughout the city have shown themselves to be deeply interested in the project.

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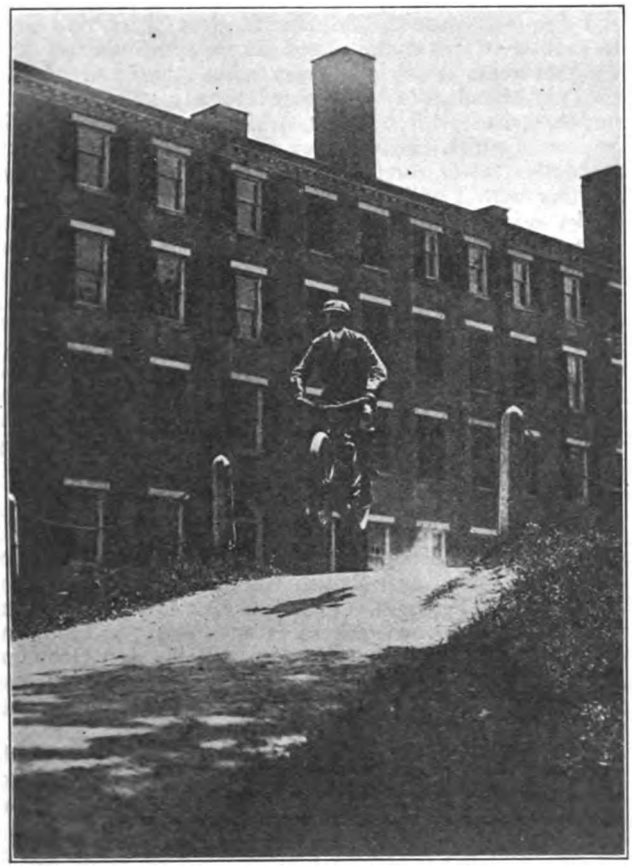
THE proposed new motor bill pending in the Pennsylvania Legislature provides for a motorcycle license fee of $3, non-residents to be allowed a ten days' exemption. The speed limit, where buildings are less than 100 feet apart, is twelve miles; otherwise, twenty-four miles an hour. Other features of the bill are as follows: Arrests may be made without warrant and the machine held in lieu of bail if the operator is the owner or using with owner's consent. Penalty for first offense not less than $10 nor more than $25; second offense, not less than $25 or more than $50; third offense not less than $50 or more than $100 and sixty days' imprisonment. The right of a trial by jury is given to the offenders if desired.

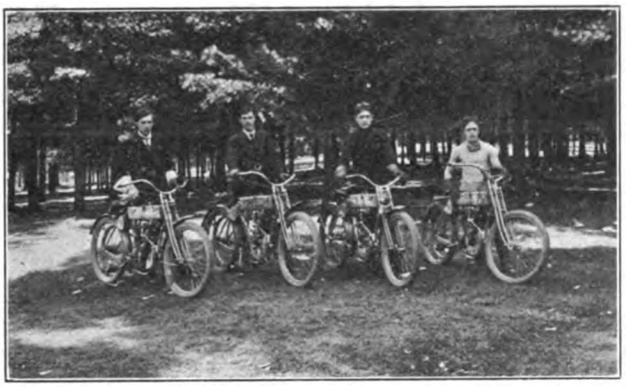
UP in the air? Aye, but he came down to terra firma without having been troubled in the least because of his exciting experience. The rider is Stanley B. Arnold, and the photo below was taken on the grounds of Phillips' Andover Academy, in Andover, Mass. The machine is a Metz, fitted with a 2¼-h. Thor engine.



BALTIMORE.—"Chick" Thomas, the hero of many hard fought races, intends to do plenty of racing next season, if he accepts all the challenges that have been hurled at him. Thomas, who would rather ride a fast race with all the chances of a bad spill on the road or track, and would even prefer a long distance contest to eating a sumptuous meal, will be ready for all comers.

OFFICIAL returns show that on January 1st of the current year there were in Germany 20,928 motorcycles used for pleasure purposes, as against 15,700 two years ago. Of the 20,928 machines Prussia claimed 10,906, the remaining states and self-governing cities 10,022. In addition to the machines enumerated above, 631 motorcycles belonged to persons temporarily sojourning in the German Empire.

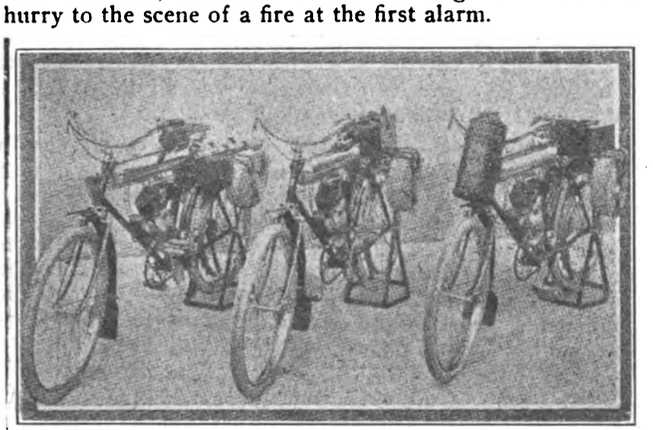
A WISCONSIN QUARTET



THE above is from a photo of four Harley-Davidson riders, taken after the County Fair races held at Wausau, Wis., last fall, and while not remarkable in any way, it shows what kind of husky riders they have in that country. The picture was taken in the woods up in the northern part of the state, which some eastern people imagine it not yet civilized. The two in the center are Tony and Alex Fehl of John Fehl & Sons, sporting goods dealers who handle motorcycles. These boys have never seen a state road, but when it comes to riding can make lots of the eastern cracks sit up and take notice.

ANNOUNCEMENT is made of the resignation of R. S. Morton as chairman of the F. A. M. National Competition Committee. Owing to the fact that Mr. Morton finds it necessary to spend most of his time on the road, he has reached the conclusion that it would be impossible for him to continue to act in the above capacity. During the short time in which he has served, Mr. Morton has greatly simplified and improved the workings of the committee. He was both energetic and impartial, and his services have been of great value to the Federation. Shortly after receiving Mr. Morton's resignation, President Earle L. Ovington announced the appointment, as his successor, of Dr. J. P. Thornley, Broadway and Seventy-third street. Dr. Thornley is one of the most enthusiastic members of the New York Club. He is a practicing physician and can always be reached at his office. He has already taken hold of the work with a degree of intelligence and enthusiasm which indicates that he is the right man for the place.

THE enterprising fire brigade authorities of the city of Geneva, Switzerland, have bought five Moto-Reve motorcycles specially equipped for first aid purposes at fires. Three of them are shown in the illustration below. These machines are kept at the fire station in readiness for calls, and members of the brigade mount and hurry to the scene of a fire at the first alarm.



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TIMELY

...mission, Carbu-

THE Massachusetts Motor Club and ... wealth Motorcycle Club are promoting ... into Worcester, Patriots' Day, April ... riding a two-wheeler is invited to attend ... 554 Main street, Worcester, in the center ... been engaged for the banquet to be given ... tending, and the well known caterer ... will serve the following menu and guests ... will go away hungry:

Roast Chicken
Cranberry Sauce Peas
Chicken and Fruit ...
Rolls
Harlequin Ice Cream
Assorted Cakes
Coffee and Cigars

The hall has numerous, good... riders may congregate before the ... merous garages and three motorcycle ... chines may be left, and free gasoline ... be furnished and put into the machines ... at the banquet.

Considerable rivalry has developed ... a handsome silver cup which is ... the property of the club delivering ... riders enrolled in their run to ...

MANY ...

WITH fine state roads running ... from Albany to Buffalo, ... to some pleasant trips ... There are now good roads from ... tance of fifty miles, and with ... Syracuse to Rochester, a distance ... Other trips that can be made ... Syracuse to Watertown, Oswego ... north, to Auburn west of Syracuse ... Binghamton on the south. Within ... country are some fine stretches of ... the state and county, leading to ... The Cicero-South Bay road ... leads to Oneida Lake and will ... er road leads to Brewerton, ... Lake. Then there are good roads ... Lake, Tully Lake and Skaneateles ... and one-half miles of road is being ... Chittenango at a cost of $27,000. ... Onondaga to Vesper at a cost of ... the Syracuse-Cold Spring road will ... ero-Brewerton-Oneida Lake road ...

AT this stage of motorcycle ... His store must be half-club ... hill-climbs and such. If he ... undertake this, he must have in ... genial chap, a leader, a rider ... borhoods the motorcycle agent ... cycle business, and if he is a ... cycle movement dies, or at least ... planning sprints and tours and ...

... spindle, and the ... rear fork ends. ... over this side, ... their motors ... and it is pleas- ... when it is greasy, ... gear.

... riders who live ... riding with ... find that with ... compression, so low a ... point of view, ... like a ripe plum. ... solute for those ... wad of bills. ... But a new ... maintain its ... a time. Con- ... are experi- ... but has a lot of ... reducing ... planet pinions ... does not spell ... a series of op- ... if it are long we ... is fun, and yet ... erage stock ... forenight move- ... a-chop light- ... engine pulleys ...

... reports that ... you wonder ... as long ... have had ... powered ma- ... twin, and ... thumping ... miles an ... a diner ... pitch. I ... doubt ... particular mo- ... much more ... can. I ... chains ... special ad- ... gear let- ... when you ... gear is not ... increase ... gradually ... section of your ...

... motors practically without ... complete with a tank carrier and ... rear makers used to fit the cooling on the ... screw attachments, instead of ... cast on the saddle. I always wondered why they ... the cooling always had to be shifted ... room to strap on a grip sack with one's ...

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night things for a tour. This year our makers have tumbled to the fact that when a good, long carrier platform is fitted, there is a nice niche just under its tail, between the bottom of the carrier and the curve of the tail end of the rear mudguard, and some of them are fitting a shaped toolbag into that niche, leaving the tools that are most often wanted to be carried in a pocket wallet. Thus the entire space of the carrier is left free for a touring outfit, which is the right way. Finally, the aforesaid toolbag is no longer a plain dropwell, into which you pitch wrenches, plugs, valves, etc., but rolls out in the form of a long strip of leather, on which all the separate goods are neatly and firmly looped, so that they cannot bung each other about, and if any of them is dropped on the turf at the roadside, you are bound to spot its absence when you start packing up.

Carbureter Developments.— Thanks to our excellent roads and our ten years' experience in manufacturing motorcycles, we seem to have reached a point where every machine is reliable, and we are now all going out for extra efficiency. The biggest advance is at present visible in carbureters, most everyone having some special little plan for vaporizing his gasoline. We have not yet got either the perfect kerosene carbureter, nor yet a sound sample of the one-lever, automatic type. But it is pretty certain that our 1910 carbureters will differ in two important details from any previous standards. One is an increase in the number of jets. We've all found that a walloping big jet, with airholes to suit, is the thing that pays in timed hill-climbs; but when you come to do a century nonstop with the aforesaid jet, the engine turns a rich plum color, and chunks begin to scale off the valve faces through overheating. So our experts are evolving carbureters with from two to seven jets, an increasing number of which are switched onto the job as the throttle lever is shoved forward. The benefit is that you can get cool, quiet, slow running on the flat, and if you want to hop over the high hills, you just jab the throttle wide open to switch on the extra jets, and immediately you are running on a racing carbureter adjustment. Improvement number two relates to fouled engines. If you are lucky enough to own a jigger which keeps on running all the time, the days come when the inside of the cylinder is coated with a quarter inch deposit of hard, scaly carbon, which increases the compression ratio and reduces the radiation of heat, so that knocking and running hot commence to annoy you. Probably nothing so tends to the formation of this scaly deposit as coasting down grades with the valve lifted and the throttle shut; the piston suction finds "No Road" printed across the inlet pipe, and so it turns back, and drags up oil from the crank case. So our carbureters are now being designed with a fresh air by-pass, so that when the throttle is shut, the piston sucks in cool air, chills off the warm engine, and is not diverted to drag up oil out of the engine base. These two improvements are hot stuff.

Brakes.—We successfully threatened our governing body with a revolution, because it tried to disqualify us in all competitions unless we had two separate brakes fitted, one on each wheel. We dislike front wheel brakes on principle, because they produce and exaggerate skids. We don't want to be bothered with two rear wheel brakes, because we find the modern belt-rim shoe is strong enough to skid a wheel at any speed, and no man needs more than that unless he is burning up the roads. Unfortunately, our highway laws compel us to fit two brakes, though it's never been proved that the engine compression may not legally rank as an extra brake. Our makers up to date have not offered us a sound second brake. We don't like rim brakes, because they have a lot of small parts which are always coming adrift—"twiddly bits," we call them, and they are apt to foul the spokes.

B. H. Davies.

MECHANICAL VERSUS THE AUTOMATIC INTAKE VALVE

According to the Reading Standard Company, makers of the R-S. motorcycle, and the first American manufacturers to make use of the mechanically operated intake valve motor, its advantages over the automatic valve motor are as follows:

In order to draw a charge of gas into the cylinder of a gasoline motor, the piston, in moving down the stroke, creates a vacuum which is filled by the inrushing air through the carbureter; this, passing by the gasoline vaporizing nozzle, carries a spray of gasoline with it, mixing with the air in proper proportions and entering the cylinder in the form of combustible gas. In the automatic intake valve motor the piston must travel down a considerable portion of the stroke to create sufficient vacuum to overcome the tension of the spring which retains the automatic intake valve to its seat, before any gas will be drawn into the cylinder. As soon, however, as the intake valve opens (just a trifle) the valve immediately closes again until the piston has moved still further and far enough to expand the gas drawn in and create sufficient vacuum again to overcome the tension of the spring, when the valve will again open, drawing in additional gas. By this process it is readily seen that the piston must travel a considerable distance through its admission stroke, during which there is absolutely no gas going into the cylinder, for the very reason that there must be sufficient vacuum created to overcome the tension of the inlet valve spring, with the result that when the piston arrives at the end of its stroke the cylinder is only partially filled with a combustible gas, the charge being very lean in quality.

On the other hand, with the mechanically operated intake valve motor, the valve is opened immediately on the beginning of the piston's downward admission stroke, and any vacuum, however slight, created by the movement of the piston is at once filled by the air passing through the carbureter, thus carrying a charge of combustible gas into the cylinder, so that when the piston reaches the end of its stroke, during its entire travel the gas has been rushing in in a steady stream (instead of having been interrupted and having to be expanded), thereby filling the cylinder completely with a well proportioned combustible mixture. This, on being compressed at the return stroke of the piston, will yield a very much more powerful explosion than is possible in the case of an automatic intake valve motor of the same dimensions and working under the most favorable conditions.

Besides the above disadvantages, there is always the tendency of the intake valve spring becoming too weak, and it must be adjusted so that it will just close the valve properly when new, and consequently, if the intake valve does not close tightly there will be a loss of gas on the compression stroke, which also means a loss of power, to say nothing of the motor misfiring under such conditions.

[This is one side of the question. Some of the readers of Motorcycle Illustrated may be interested in presenting the other.—Ed.]

* *

Says the San Antonio, Tex., *Express*: "Increased popularity is weekly the portion of the motorcycle in San Antonio, and many kinds of uses are continually being found for the handy little two-wheeled conveyances. The recent trip made by B. L. Shaw through the sandy country from Uvalde, sometimes 200 miles from the railroad, opened the eyes of many people ignorant to the possibilities of the machines, and lecturers and evangelists, going to out-of-the-way places, are beginning to use them extensively." That is the story, with slight variations, everywhere, and its significance is plain.

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BUILDING A SPEEDWAY

Straightaway and Approach to S. W. Curve

IT'S a race of an army of workmen against time on the new Indianapolis Motor Speedway, and as usual since automobiles and motorcycles entered the ranks of record producers indications are that the mythical Father Time will again be the runner-up. Inability to get road-building machinery, together with spring showers, delayed the start of actual operations on the speedway for about three weeks, but since they began things have fairly hummed.

From a level tract of prairie land of two weeks ago there has sprung up a long stretch of straightaway, a gradually inclined approach and a well-banked curve, as shown in the accompanying illustrations. An idea of the rapidity with which the dirt is gathered may be had when one learns that the two road machines now in use are capable of gathering and dumping about 1,500 loads per day. Each wagonload contains one and one-quarter yards of dirt. Another complete outfit was installed last week in order that the grading might be completed on time.

The grounds of the speedway are a mecca for autoists of Indianapolis and nearby towns, and the efforts of over a hundred men, teamsters, enginemen, foremen, engineers, struggling mules, puffing engines and dump wagons never cease to interest them. Nearly four miles of fence, which it will take to enclose the grounds, an office building, a club house, a two-story restaurant and other structures, are also nearing completion.

An interesting feature in the work of grading the course is the changing of the bed of a small creek which runs through the tract. The racing track will cross the creek twice on wide cement bridges, and to have the course cross the creek squarely instead of at any angle the engineers found it necessary to change the direction of the creek at one point near the grand stand. A small army of workmen was put to work with road scrapers and a new channel for the creek was constructed.

G. L. Bumbaugh, aeronautical captain of the Aero Club of Indiana, returned from the West recently to accompany Indianapolis balloonists in their flights necessary to become pilots in the Aero Club of America.

Dirt Flies Before this Machine

SOLVING PHONE TROUBLES

The Illinois Way

THE police, letter carriers, gas repair men, salesmen and collectors in all parts of the United States and Europe have been using the motorcycle to advantage of late years. The number of machines applied to these classes of service is increasing from day to day, while at the same time the motorcycle is being successfully extended into new fields, one of its latest uses being for telephone work. Interesting indeed are the details of the report furnished by the Northern Illinois Telephone Company, of Sandwich, Ill., regarding the advantages of the motorcycle when used for this purpose. The report follows:

"Our territory comprises an area of about 1,000 square miles, and the motorcycle has proven a profitable departure from the old method of transportation for 'trouble chasers.' Its speed is about twenty miles an hour on average roads, and one man clears up what was previously the work of three men and at a cost of but twenty-five cents per day—or the cost of feed for one horse. It saves for us per day: Two men, $5; three livery rigs, $4.50; two horses' feeds, 50 cents (as we count one of the horse feeds as the cost of running the machines). We have covered 100 miles a day and cleared up twenty-five cases of 'trouble.'

"Our 'trouble,' moreover, is much better cared for, as runs of ten or fifteen miles are now made for minor cases which were previously 'passed up,' and our service impaired to that extent. Our collectors can also cover twice as much territory as they previously did with a rig, although fuel and maintenance cost us only thirty cents a day.

"Then, too, a man can carry spurs, blocks, wire, test sets and dry batteries on a motorcycle. He does not need anything more, as one can clear up 90 per cent. of trouble with what tools he can carry in his pocket. It is better than an auto, as in case of breakdown the engine can be detached and the machine pedaled in."

NEW BEDFORD, Mass.—But for the fact that he was being accompanied on the trip by two motorcyclists, Clarence Allen, of 19 Borden street, might have experienced a "Weston" walking trip from Horseneck Sunday afternoon when his automobile broke down He was towed back to this city by the motorcyclists and the machine is now undergoing repairs.

Mr. Allen, who owns an Orient buckboard automobile weighing about 700 pounds, was leading the cyclists, Jesse S. Allen and John Lubas, a merry chase when all of a sudden his engine stopped. His companions joined him, but the combined amount of "automobilism" in the three heads was not sufficient to get the engine going again. Strong cables were procured and after a great real of tinkering which was of no avail, the two motorcycles were hooked to the automobile and thus the journey home was made.

A MOTORCYCLE message and packet delivery service has been organized in Grand Rapids by Mr. Rose, better known as having been the first to do the "Globe of Death" with a motorcycle. Mr. Rose is an enterprising young business man and motorcycle enthusiast. This novel experiment having been tried in other cities with success it was up to us to show others that Grand Rapids is not behind the times. Incidentally, an organization for the promotion of motorcycling has just been formed with an enrollment of fifteen members and prospects of many more. The young men of the town are just beginning to realize the amount of pleasure that can be derived out of a machine.

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JOIN THE FEDERATION

by Earle L. Ovington

THE Federation of American Motorcyclists was founded in 1903, one of its objects being to nurse and protect the comparatively new sport of motorcycling. One of the first things the new organization did was to take over the management of motorcycle racing in America, which had up to that time been handled by the bicycle interests. An affiliation was made with the National Cycling Association to that end, and the government of motorcycle racing in American passed into the hands of the F. A. M. Affiliations were then made with the American Automobile Association and the Amateur Athletic Union.

The F. A. M. grew by leaps and bounds, which indicated that a strong demand existed for such an institution. It rapidly brought order out of chaos in the motorcycle racing field, and separated the amateur from the professional. Early in its history the F. A. M. turned its attention to legislation in the different states in so far as this legislation affected motorcycling. It was entirely through the efforts of the F. A. M. that motorcycles were exempted from the automobile law in the state of New York. In New York State motorcycles today are legally bicycles, and not automobiles. They do not have to carry numbers, nor do the owners of the machines have to take out licenses. This is no more than right, for the motorcycle is essentially a bicycle, except instead of being propelled by the muscular energy of the rider, it is driven by a small gasoline engine. There is hardly anything in common between the little two-wheel vehicle, less than five feet long, and leaving only a single track on the road, and the enormous four-wheeled automobile. Although more successful in the case of New York than in any other state, the F. A. M. was directly responsible for having the motorcycle put in a special class by itself when the little machine was mentioned in a law affecting automobiles.

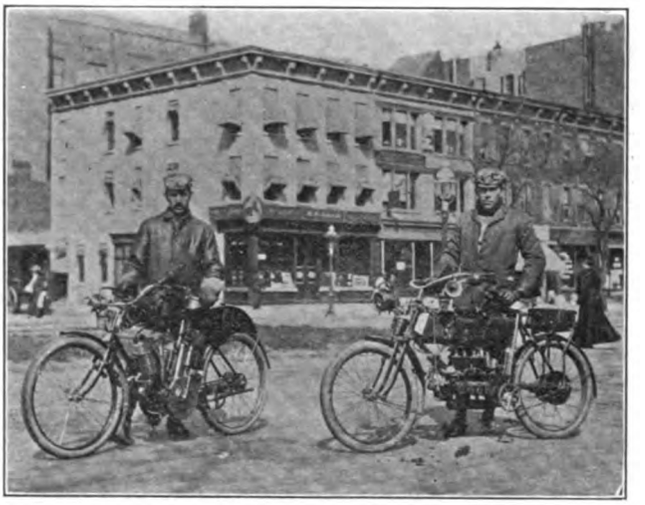
From a very humble beginning, the F. A. M. has grown to be a powerful organization, and absolutely controls motorcycle racing in America. There is not a prominent motorcycle race meet held or any important motorcycle event run off in connection with a bicycle or motorcycle meet unless under the rules and with the sanction of the F. A. M. The A. A. A. and A. A. U. uphold absolutely the rulings of the Federation of American Motorcyclists. The Federation of American Motorcyclists has six national committees, namely, membership, legal action, competition, highway improvement, tours and hotels, transportation and facilities. By means of these committees, the F. A. M. is able to keep in close touch with motorcycling affairs of America, and today no sport has a better organized governing body than the sport of motorcycling.

If every motorcyclist realized that many of the benefits which he enjoys when awheel are the direct results of the efforts of the F. A. M. he would join the national organization, and help those who are trying to help him. Let every motorcyclist who is not already a member send for information regarding the only national body governing the sport which gives him so much pleasure.

STANLEY T. KELLOGG arrived in New York last Thursday night from Boston, having made the trip on his Excelsior, covering 243 miles in 9 hours and 6 minutes of running time. This is very fast if the sandstorms and head winds that prevailed last Thursday are taken into consideration.

When turning or drilling aluminum use kerosene oil on the cutting edge.

THE F. N. AND THE "POPE"

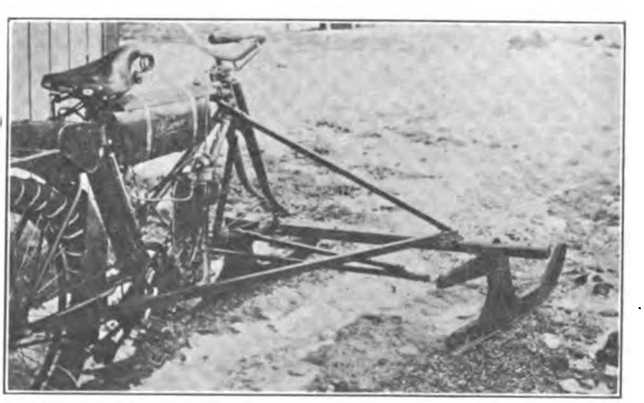


THE gentleman to the right in the above illustration requires no introduction to readers of Motorcycle Illustrated. The likeness is easily recognizable as that of the President of the F. A. M. His companion is Whitney, designer of the prospectively famous Pope motorcycle which may materialize in the very near future. Whitney's model, as discernible in the photo of his machine, is fitted with a spur gear drive.

WORCESTER, Mass.—Augustus Johnson, machinist, who lives at 26 Esther street, has invented an improved ball-bearing crank shaft for automobiles and motorcycles. It is novel in construction, and because of the arrangement of the parts, it allows a very quick removal and replacement of cones in case of worn, cut or broken cones. The shaft may be made of one solid piece of steel. The cones are made in two sections, and are fastened to the shaft by means of a novel device, which makes it impossible for the cones to become loose or to work out of place.

The object of the invention is to provide a device for conveniently removing cut, worn or new cones, without removing the crank shaft or disturbing the parts of the engine in any manner. Mr. Johnson believes that the device in connection with marine type connecting rods cannot be equalled in a ball-bearing crank.

HERE is something quite out of the ordinary, a Wagner with a front runner attachment. The machine has been in use all winter by Rev. J. Henry Chatterson, of Cumberland, Wis., in visiting members of his congregation. Note the steering device, also that the traction of the rear wheel is obtained by chain.



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HOW TO FIGHT UNFAIR LEGISLATION

Individual Members Should Co-operate with the F. A. M. Committee on Legal Action, if Results Are to Be Forthcoming.

By DWIGHT PATTERSON

ONE of the most important considerations of the motorcyclist is that he shall be free from unjust and unreasonable laws and restrictions, not only as to the enactments of the states, but by municipalities and even park commissions as well. For the purpose of securing these rights and protecting F. A. M. members from unjust legal proceedings, the Federation of American Motorcyclists' constitution and by-laws provide for a committee composed of six members, to be known as the Committee on Legal Action. But when one considers that this committee is composed of only six and that the members of the F. A. M. are scattered throughout the numerous states and several territories of the United States, the necessity for concerted and intelligent assistance on the part of other members of our Federation becomes apparent. Without this aid, quick and effective action cannot be taken against harmful laws and ordinances, or help extended to a fellow motorcyclist in trouble, except in the vicinity of one of the members of the committee, without considerable expense for travelling and for legal services.

The extent of the field to be covered by the committee was duly impressed upon the writer's mind when the first duty appertaining to the chairmanship was placed before him. This matter was a request to the F. A. M. by one of its members for action against a local tax upon motorcyclists of a certain township of a southern state. Upon receipt of this request, I looked up the nearest member of our committee, only to find that there was no resident member in that state, nor within some 600 miles. All that the committee could do was to write a letter of protest to the commissioners of the township and advise our complaining friend what steps to take personally. As the writer is informed, this was unavailing, owing in great part to the loss in time in learning of the proposed taxation. Many similar cases could be aptly cited.

Not long after this occurrence, the writer, as chairman of the Committee on Legal Action, conferred with President Ovington as to the best methods of getting more closely in touch with matters throughout the United States, pertaining to the carrying out of the provisions of Section 2 of Article II of the Federation's by-laws, to wit: "To ascertain and defend the rights of motorcyclists." The writer proposed three courses, in the form of an appeal to F. A. M. members in general, which met the approval of the President, and which would materially aid in the carrying out of the committee's purposes, yet in no way overstep the provisions of our constitution and by-laws.

In the first place, we have to deal with the proposed laws of the various states affecting motorcyclists. To do this, at least one F. A. M. member in each state of the Union who is a friend of some legislator there, should write to this member of the Legislature and request that he be duly informed of any proposed legislation affecting motorcyclists. The writer has learned from experience that legislators are not adverse to giving such information, which may be obtained far enough in advance to be opposed successfully on legal and just grounds. It is therefore hoped that as many members as possible get in touch with legislators of their respective states, for now is the time to be on guard, owing to the present strong reaction against the automobilists, which may be the means of drawing motorcyclists into the pool of rigid legislation against motorists in general.

In the second place, we are confronted with the passing of local regulations or ordinances and unjust legal proceedings against motorcyclists. In these cases it is only through the notice of members who are in, or near, the localities affected that the help of the F. A. M. can be secured. It should therefore be the duty of every F. A. M. member to immediately notify the Federation of any such tidings as he may receive; he should not wait until an unjust ordinance is passed or an oppressive decision rendered and then raise a hue and cry. The way to successfully handle such situations is to head them off—not to attempt to repeal laws or upset decisions.

In the third and last place, we have before us the matter of knowing what men are in positions to render efficient and quick assistance, and keeping such names on file. Then, when it is time to appoint a new committee, the President may be able to do so forthwith from a list in hand, if he so desires, and should there be need of the services of an attorney, or a person in a position to use his influence in forwarding the Federation's interests, this person can be called upon. And it might be said here, that it does not necessarily follow that services rendered are to be *gratis*. Accordingly, every member of the F. A. M. who is an attorney, and every member who believes that he is in a position to be of service to the Federation in ascertaining and defending the rights of motorcyclists, should hand in his name.

The success of any attempt on the part of any organization to achieve a purpose, depends upon the respective activities of its members. It is true that certain duties may be delegated to a committee for the purpose of avoiding the delay and trouble incident to action by the organization as a whole, but, because particular duties are thus committed is no reason why every member should not feel it his personal obligation to aid the committee in its work as much as in him lies. Thus, in this particular instance, an already active branch of the F. A. M. can be made much more efficient.

BALTIMORE CLUB HELPS SECURE BETTER LAW IN MARYLAND

THROUGH the efforts of the Baltimore Motorcycle Club, the proposed Good Roads Law for Maryland is likely to be modified in so far as the tax on motorcycles is concerned. The law, as originally drafted, provided for a tax of $4 per year, together with the carrying of a license tag—dimensions not specified. As soon as the provisions of the proposed law became public, the secretary of the Baltimore Club communicated with the Good Roads Commission, and his vigorous protest brought a request for a committee from the club to meet the subcommittee of the Commission on Tuesday, March 23d. At this meeting, the matter of taxes and license numbers was thoroughly discussed, and Colonel Swann, the author of the bill, agreed to make several important concessions.

The bill, which will be presented to the next Legisature, provides for a tax of $1.80 per year and a license tag with figures not over one inch high and one-eighth inch in diameter, and the club has been assured that the new Motor Vehicle Commissioner, when appointed, will listen to suggestions as to the size and shape of tag to be used. The victory, while a small one, shows what can be done through prompt and united action.

Under the new law, if a man takes out a license on January 1st, and sells his mount June 1st, he will be entitled to a refund. If he buys a machine late in the year, his fee will be lower.

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AN IMPORTANT DECISION

THE pressing need of organized endeavor to prevent what is tantamount to persecution is manifest more than ever, now that the Supreme Court of Michigan has rendered a decision declaring a motorcycle to be a motor vehicle, and not a bicycle. This decision carries with it the absurd meaning that riders of the little two-wheelers will hereafter be required to carry two lights on the front end and a red light in rear, as well as a large-sized tag with figures showing the license number at least three inches high, with the word "Mich." in letters of at least one inch in length. Just how motorcycle owners will find room on the machines for all the equipment is something of a question. To each handlebar there will have to be a radiant light affixed, and somewhere about the rear end of the machine a red light of danger. In addition the license tags have to be displayed on the front as well as the rear end of the machines.

Since the passage of the act regulating the use of automobiles, it has not been enforced against the motorcycles, because it was generally understood that the law did not apply to them, but this decision of a supreme court specifically says the cycles will have to come under the provisions and owners must secure the tags and lights in order to be immune from prosecution. There is a bill before the Legislature at present to amend the present law, and included in that is an exception in favor of the cycles, but it is doubtful whether it will ever find a way through the two houses. In any event, here is a precedent which must be upset at the first opportunity. Such an interpretation of the law is nothing less than intolerable, nor can decisive action come too soon, to prevent other legislative and judicial bodies from following the extraordinary example set by the Michigan jurists.

WAYS TO STIMULATE

IN this issue is printed a brief report of the Northern Illinois Telephone Company covering the use of motorcycles by their "trouble" men. Some big maker should prepare 500 reprints of this report and send them with a suitable letter to 500 telephone companies. The names of the 500 or more companies can be obtained from the Rapid Addressing Company, 374 Broadway, New York. Work of this sort gives not only direct returns, but it also shows the need of motorcycle use. It is only by doing a thousand and one little things of this sort that motorcycling can be expanded to man's size.

The future of the business lies very largely in the hands of our forty and odd makers and importers, supplemented by the enthusiasm and energy of our one thousand big-size motorcycle agents. Neither maker nor agent should ever lose an opportunity to spread the gospel. And, by the by, to state that motorcycling needs no special stimulus of this sort—as some do state—is to assert a vain thing. To be sure it is a growing field, but, like any other field, it will respond hundred fold to *cultivation*.

RESTORES MOTORCYCLE COPS

THE metropolitan papers are filled these days with reports of auto accidents in and about Greater New York. Conditions were never worse. Accidents are of almost hourly occurrence and the court calendars are weighted down with cases against excessive speeders. As a result of these conditions Police Commissioner Bingham has given orders for the restoration to their former duties of the motorcycle police, twenty in number, in Brooklyn and Manhattan. For some time these men have been assigned to various points to regulate traffic while their machines were being fitted with Bosch magnetos. The machines have been returned from the factory and their riders, better than ever equipped to cope with fast-going autos, are making arrests by the score. It is now an established fact that nothing can be of greater service than the motorcycle in bringing the careless and indifferent autoist to terms. Scores of other cities have followed or are about to follow the example of the New York Police Department, so that the little two-wheeler is being made to serve an excellent purpose in practically every city of any consequence throughout the country.

BRITISH DENSITY

MOTOR CYCLE, the leading English publication, makes the admission that, "with regard to the records created in America, it is high time the governing bodies here agreed to recognize their authenticated records. At present the A. C. U. keeps no record of performances on the motorcycle in America." It is quite impossible to conceive how our friend the Briton can hope to keep up with the progress of the times, unless he recognizes the rather extraordinary ease with which American riders on American machines have splintered old records in such meets as those held recently at Los Angeles and Daytona. We heartily agree with *Motor Cycle* that it is about time the A. C. U. realized that motorcycling activities and remarkable speed performances are not confined exclusively to the mother country.

IDEAL FOR THE PHYSICIAN

AN Ovid, Mich., doctor reports that he has ridden a motorcycle 4,500 miles at a cost of $57.18. With horse and buggy a doctor with a town and country practice might drive as much as twenty miles a day, so that the 4,500 miles would represent 225 days, or, say, counting a few holidays, 250 days. The initial cost of the horse and buggy would be, say, $600, and the maintenance charges, at a dollar a day, $250, giving a total of $850 as against about $300. Then there's the time saved and the pleasure of the rush through space. Taking it all in all the motorcycle has it very much "on" the old "rig," and many M.D.'s are finding it out.

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STARTING TROUBLES EXPLAINED

Reasons Why Your Machine "Balks" Now and Then—A Few Efficient Safeguards and Cures for this Disconcerting Ailment.

By THE DOCTOR

OF all motorcycling woes there is nothing to touch the starting trouble. Any one of us would rather have a puncture in a nice, lonely corner than spend five minutes attempting to quit the domestic threshold. It's partly the crowd, partly the memory of the glib lies we've told about our complete mastery of the jigger and its utter docility, partly the unkind things the family has to say, partly daunted enthusiasm and disappointed hope; but, anyway, it's real bad, and I want to have just a few words with you about starting troubles. I have to ignore a lot of them, for a starting trouble may be any one of the hundred things that may go wrong. There's a little fiend in coincidence, and only last fall I had a brace of that sort in a single afternoon as a punishment for swanking to a young novice I was out coaching. We stopped for our first personal lubrication, and nothing would induce my jigger to restart, simply because a spark plug on which I had done 7,000 miles had cracked in that very click of time when I switched off outside the saloon. At the next lubrication engagement, the same humiliating circumstance assaulted me, except that this time a chunk of mud had engaged the jet of my carbureter just as I had applied the brakes. Things like these take a while to diagnose, because you've no preliminary from which to start work. So I must ignore all difficulties in starting due to some mishap having coincided with the switch-off—luckily, they aren't common.

Symptoms.—The first thing to be sure of is that the switch is on and the gasoline tap open—no one is too old a hand to be gulled by these ancient hoodoos. Excluding these, by far the commonest trouble is a gummy piston, sliding stiffly in the cylinder by reason of congealed lubricating oil. If a piston habitually gets gummy, a squirt of kerosene should be injected whenever the machine is put away; two drops of kerosene are better than a gallon when taking it out. When I get hold of a machine that always gums—and there are such—I invariably substitute water-cooled automobile engine oil for the usual thicker air-cooled oil, even in summer; and I never under any circumstance use air-cooled oil during a cold snap. This often obviates the call for the tiresome kerosene gun. A gummy piston makes starting awkward because slow motion of the piston means reduced suction at the jet of the carbureter, and we shall find that nearly every starting difficulty is due to lack of suction at the jet, in one form or another. For instance:

1. **Poor Compression.**—If the compression is poor, the piston suction is wasted through gaps past the rings, valve caps and exhaust valve seat; as poor compression eases the piston motion, one fault may here compensate for another, but not always. The piston suction is wasted, does not reach the jet, and insufficient gasoline vapor is inhaled.

2. **Leaky Airslides, or Throttle Spindles.**—On machines that have seen wear, the piston suction is often wasted on leaks past the valve, shutter or slide of the air supply to the carbureter, or the enlarged holes in which the throttle spindle works, or around the inlet valve dome; all these obstruct easy starting, for the above reason.

3. **Gasoline Level Too Low in the Jet.**—Obviously if a bead of petrol is permanently welling up level with the tip of the jet, less suction is required to produce vapor than if the spirit has first to be sucked up a length of narrow tubing.

4. **Too Small a Jet.**—One tricar I used to drive would not start on the handle at all with a six-slot jet in its carbureter, but would respond instanter with a seven slot. The above are points to be looked for as a machine with age becomes increasingly difficult to start. Other common reasons for trouble in starting are as follows:

5. **Inlet Valves.**—Automatic inlet valves get gummed down on their seats with burnt oil, so that a slow piston movement does not suck hard enough to dislodge them. All a. o. i. v. engines should be provided with strikers; failing these, the valve should be cleansed periodically and over-lubrication sternly avoided.

6. **If the ignition is magneto,** a gummy engine means a slowly revolving magneto, which in its turn spells a poor spark. Other points, with magneto ignition, are that the spark plug points must be very close set (explosions often separate them a trifle), and the platinum points must be clean and in square register together.

7. **With dry cell ignition,** the contacts must be clean and accurately adjusted—more so than for fair running when once started, for any derangement has twice as much power at starting than in subsequent running.

In conclusion, a machine that receives periodic attention is seldom hard to start; but riders of the leave-her-alone-till-she-jibs order should take the precaution of secretly testing the engine on the stand in the backyard befor emerging into the publicity of the street.

THE RE-OPENING OF WISCONSIN'S MOST FAMOUS ROAD

THE famous Whitefish Bay road in Wisconsin was again opened for use during the month of March. The surface has recently been treated with a preparation of petroleum, which is guaranteed to make the road absolutely dustless, and which at the same time will not in any degree injure rubber tires. This particular preparation was tried out with several others on different sections of the speedway, and the committee decided this was the best solution for the dust problem. The Milwaukee Automobile Club is very desirous of having the city use this same product on the macadam park roads, which are now very dangerous when freshly sprinkled, and which would not need sprinkling were they treated the same as the Bay road. Wet pavements are even more treacherous for motorcyclists than for automobile drivers, for they have but two wheels to rely on, and where is the rider who cannot remember a nasty spill on a wet pavement?

The Whitefish Bay road is probably the best known stretch around Milwaukee where the reckless driver, be he back of steering wheel or handlebar, cannot resist the temptation to "let her out." Many a story is told of hair raising impromptu brushes on this highway in the years gone by, but since the police adopted the motorcycle as a means of chasing the speeders, even the high powered roadsters cannot get away from the fast little two-wheelers. It is much to the credit of the motorcyclists of Milwaukee that although the arrests of automobile speeders were many indeed in 1908 not one single motorcycle rider had to appear in court for exceeding the speed limit.

But a modern motorcycle is generally conceded to be fast, and if it is fast, the owner wants to see just how fast, and so every Sunday in the season, weather permitting, one can see the motorcyclists tearing along the picturesque Blue Mound road.

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HINTS ON CONDUCTING A CLUB

The Importance of Harmony and the Avoidance of Cliques—Club Runs, Hill Climbs, Trials and Race Meets—How to Insure Success.

TO successfully conduct a club is a task of no small proportions. Although riders of the self-propelling two-wheeler are in position to learn not a little from the experiences of the promoters of thousands of bicycle organizations, there are important points of difference. With a view to satisfying what appears to be a general demand for information on this score, the following suggestions are offered:

First a solemn word of warning against cliques. Be open hearted and friendly to all your fellow club members. Do not allow personal tastes or prejudices to cause you to mingle with only a chosen few; instead, let the masonry of the motorcycle prompt you to extend good fellowship to all. This is the keynote to successful club management. Choose your officials with discrimination; select hustling business men for secretary and treasurer, and, generally speaking, men who have the interests and welfare of the club deeply at heart. It is a good plan to have a social secretary to work out stag-dinners, dances, etc., all of which serve to keep members in touch with one another during the winter season and to make for a spirit of unity and good fellowship.

Each club officer's duty should be definitely understood at the outset to avoid any chance of friction. The secretary and the captain should be men of ready resource and tact and the committees should be composed of a fair proportion of substantial business men.

The Saturday and, mayhap, Sunday runs and week-end tours should be varied as to route and destination as much as possible. In some clubs it is a custom to call a general meeting at headquarters to map out this program, as many of the members can suggest pleasant runs which might otherwise be omitted. Make these runs of moderate length and, in the case of week-end trips, study the "narrowest pocket"; don't select too expensive a "venue," and thus keep away the less fortunate members.

The writer has a pleasant reminiscence of a camp which was a great success. Light canoe tents and outfits weigh but little and can be "portaged" securely on the luggage carrier. A complete outfit and tent, with bamboo pole and ground cloth and aluminum utensils for two campers, may weigh as little as twenty pounds.

A word as to inter-club runs—select from your district two or more clubs and arrange week-end inter-club runs, meeting at an agreed spot. These fraternizing gatherings cannot be too highly spoken of. They lead to great good fellowship and increase the interest in club life to a large extent.

Again, reliability trials are very attractive events and usually arouse great enthusiasm. In the case of small clubs it is an advantage for a number of them to unite and thus carry the affair through on a larger basis. Of course, nowadays, the motorcycle is so reliable that 200 to 300 miles should be fixed as the distance. There are various methods of running these trials, but in the case of a small club, with only a few "observers" along the route, a schedule on a fixed basis is the best way of deciding matters—that is, competitors should check in at certain towns, the schedule being based upon a rate of fifteen miles per hour. Each stoppage must be reported, and the schedule should be arranged so that in the case of an unobserved serious breakdown the competitor cannot "make up" time by speeding to the next control. This plan is s i m p l e r than the "parts-sealing" type of trial. Marks are deducted on the schedule scheme according to time lost upon arriving at each checking control. Hill-climbing competitions are also productive of the keenest rivalry and fun.

A standing start trains a man to study the flexibility of his engine. The best way to frame a handicap for a start is on cubic capacity of cylinder or cylinders, also making some allowance for weight of machine and rider. One usually finds a satistical fiend in a club and this reducing to figures generally brings close results. In later hill climbs it is fair to others to handicap a former winner as an encouragement to the novice at the game.

Another method of conducting a hill climb is to have a *slow* race up the hill and then a speed test; the man who scores the biggest difference between his two times is declared the winner. A "surprise" test in a hill climb also goes well. The competitor starts as in the speed test and has to stop halfway up between two fixed points, or, better still, at a signal from an official at an unknown spot on the hill; then he has to start again, after coming to a dead stop, and complete the course as fast as he can.

A race meeting should be run on business lines, and if properly managed can be made to pay. A larger special committee should be appointed to do the additional work; don't forget that the secretary will need all the assistance he can get to make the thing a success. Choose a track first with an eye to safety, preferably one banked at the turns. Secondly, secure one where the public will have to pay to see the races. Then be prepared to "splash" a few dollars in advertising, as this is the only road to success for ventures of this description. Get all the members and their friends to hustle the sale of tickets and try to cover all expenses in this way before throwing open the gates on the glorious day. Incidentally, the club should make arrangements with the proprietors of the track to permit of postponement if the weather does not turn out well. Have a "chosen few" as officials, doorkeepers and "clerks of the course," and don't allow any one else near the track. *Don't* permit even an official to cross the track during a race.

Have your handicaps worked out *thoroughly*. For the sake of maintaining the interest of the public, manage them on the basis of starts from scratch and get the whole field going at the "gun." Starts worked on the time basis are very apt to pall upon the non-technical spectator. Have a long and a short scratch race, a long and a short handicap, a short time trial for the big engines, a slow race and a handicap open to touring models with mufflers fitted and full kit attached. Thus you would have seven events, but, of course, this programme may be enlarged upon and even some gymkhana stunts inserted.

Now do not forget that at the end of the season a winter programme should be arranged so that the members may meet at times to "yarn" and fraternize generally. The social secretary steps in here—perhaps he finds a camera enthusiast whom he can persuade to give a lantern lecture and fill up with song and merriment. Dances and euchre parties help things along. All this is up to your worthy social secretary. Your club will be what you make it yourselves. If the keynote be "harmony," then when you are old and your joints are no longer supple, many and pleasant will be the memories of those halcyon days.

IN fitting a speedometer, or mileage indicator, it is absolutely necessary to have the driving gears exactly centered on the front wheel.

TIRE casing should be gone over frequently and bits of gravel or metal picked out. The small cuts left should be filled in with strong cement.

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WITH THE CLUBS

INDIANAPOLIS, Ind.—Officials of the Indiana Motorcycle Club have received a letter from President E. L. Ovington, of the Federation of American Motorcyclists, to the effect that since the time limit for the receipt of applications has expired, it will only require a formal vote to determine that the national convention will be held in Indianapolis between July 1 and 15.

According to present arrangements the program will be started with an endurance run from Buffalo to Indianapolis. The program at Indianapolis will consist of two days of racing and will end with a hill-climbing contest. The races will be held on the new Indianapolis motor speedway.

There are now 300 motorcycle riders in Indianapolis, and the number will be largely increased before the season ends. The local club has 100 members and is weekly receiving many applications. Its members want all the Indianapolis riders to join and it is expected that most of them will be members before the big meet.

MILWAUKEE, Wis.—The local club met recently at the St. Charles Hotel. There was an unusually good attendance, and it will be but a matter of weeks before the club membership reaches the 100 mark. Ralph D. Sporleder, acting president, appointed a committee composed of Joseph J. Lantry, S. Lacy Crolius, and Dr. S. T. Lewis, to go on with the work of incorporating. Crolius was made chairman of the committee, and it is expected that a full report will be made at the next meeting. A suitable club house is now desired, and all the members are looking for something in this line.

The Milwaukee club is making a decided effort to get all of the motorcyclists of the city, almost four hundred, into the club. Plans are being made for an elaborate suite of rooms, and if nothing goes wrong, other clubs will have to look up to the Milwaukee organization as one of the most wideawake clubs in the country.

CHICAGO.—The first run of the local club will take place Sunday, April 18th, to Half Day, about forty miles distant from Chicago, where a dinner will be served to members and their friends. The captain will check in the members at 12 o'clock sharp at Half Day. Similar trips will be held each Sunday during the season up to Thanksgiving Day. Trips will be made as far as Milwaukee and return by boat, also to Michigan City, Ind. The racing board, consisting of I. S. Woodworth, E. L. Hess, F. B. Hart, J. T. Fisher and President Lang, has decided to hold a gymkhana on Decoration Day.

THE Wigwam, the Stewart Belcher Company's place in Torrington, Conn., is the rendezvous of riders of that and neighboring towns. The photo below contains about half of the two-wheeler enthusiasts of Torrington, who will feel very much dissatisfied if they do not double their number this season.

BROCKTON, Mass.—There has been a reorganization of Brockton riders, a meeting having just been held which resulted in the organization of the Brockton Motorcyclists Club. The charter will be held open until May 1 to allow others who plan on joining to sign the list. The club intends to hold runs every Sunday during good weather, and also will join the Boston to Worcester run on Patriots' Day.

These officers were elected: President, G. A. Gove; vice-president, R. A. Pickens; treasurer, George N. Hall; secretary, A. A. Hoyt; captain, David Marsh; chairman of the by-laws committee, A. C. Hall; chairman of the house committee, David Marsh; chairman of the committee on runs, W. T. Marsh.

NEWARK, N. J.—More than three-quarters of the members of the New Jersey Club have joined the Federation and two of them are on the national committees. W. S. Thomas has offered two silver cups as prizes in the Decoration Day run. One will go to the single-cylinder machines having the highest score and the other to the twin doing the best work. The president has offered a gold piece for the largest number of members brought in by July 1.

SAN JOSE, Cal.—The members of the local club held their first meeting for the season Friday evening and elected the following officers for the ensuing year: President, A. W. Volkers; vice-president, Herbert C. Fridley; treasurer, Charles H. Northup; secretary, Fred Shaw; sergeant-at-arms, Herbert Bean. A committee consisting of Messrs. Shaw, Northup and Bean was appointed to make preparations for a smoker and banquet to be held May 4.

PLAINFIELD, N. J.—The riders of this city have just organized a club, with the election of the following officers: President, Dr. W. H. Anthony; vice-president, Douglas Martin; secretary and treasurer, Allen Fulmer; captain, Arthur Hurlick; lieutenant, Bud Howard. In the near future a banquet will be held by the club at Pedeflous' Hotel.

GOSHEN, Ind.—Elkhart County riders are planning the organization of a club. There are about forty riders in Elkhart County and by united action they hope to secure better roads and to make plans for runs and amateur speed contests. L. R. Bigler and E. L. Cline are working to perfect the organization.

BALTIMORE.—Captain W. S. Fisher, Secretary Hamburger and President Howard A. French, of the local club, are planning an endurance trip of more than 150 miles. The hilliest sections will be picked for the trip, which will take place early in May.

PORTLAND, Ore.—The second run of the Portland Motorcycle Club was a two-hour trip to Sandy. The roads were in fine condition and all except one of the riders finished. Seven of the machines were Indians, one a Reading Standard and one an Excelsior.

RIVERSIDE, Cal.—The local club is arranging to become affiliated with the F. A. M. A race meet will be held on May Day and a hundred-mile competition will be conducted later in the season.

INDIANAPOLIS, Ind.—The Indiana Club moved into its new home, 424 West Vermont street, a few days ago. Its club rooms are fitted in elegant style.

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TIRES: CARE AND REPAIR

THE first and most important point in the use of tires is to see that they are kept well inflated. More automobile, motorcycle and bicycle tires are ruined every year through lack of proper inflation than from all other causes combined. A tire should be inflated so that it will not flatten out perceptibly under load. This naturally means that different degrees of inflation must be used for the varying weights of riders and machines. Ordinarily forty-five or fifty pounds of pressure is sufficient to carry a single machine and rider. When a machine of high power or unusual weight is used, or when a tandem attachment is applied, then additional pressure should be placed in the tire to offset these conditions.

Partial Inflation.—When a tire is but partially inflated it flattens down in service, and is continually wearing against the edge of the rim. It is only a matter of a few weeks when this wear, which is helped along materially by dirt and sand which get between the rubber and the edge of the rim, will cut through the rubber and through the fabric, practically ruining the tire, or, at least, making an expensive repair necessary.

Causes of Blow-Outs.—The fact that the tire is soft also creates additional motion in the tread, and it is this motion which greatly aids separation of the different plies of fabric and rubber. Under-inflation is also responsible for a great many blow-outs. The majority of blow-outs are due to bruising the threads of the fabric by striking obstructions while the tire is but partially inflated. The fabric is caught between the rim and the obstruction, and each fibre in the thread is broken or weakened just as you break a string or weaken a piece of cloth by laying it on a hard surface and striking it with a hammer. You may not be able to see where the tire has been injured, and perhaps the blow-out will not develop until the tire is properly inflated.

Why Tires Burst.—The rider, noticing that his tire has become soft, takes his pump and blows it up to the proper pressure. He then starts out for a ride, and travels a short distance when his tire bursts. Looking around he can find nothing which might have caused the trouble, and he naturally concludes that the tire is worthless. The cause of the burst is, of course, that the strength of the fabric has been weakened, and that under the increased pressure the threads have parted and allowed the tube to blow through. Lack of inflation also allows dirt to get in between the fabric and rubber wherever the tread has been cut, gradually separating the rubber and fabric, and causing what the rider knows as a "sand blister." However, if the tire is made of the proper materials and properly constructed, most of these difficulties may be avoided by due care.

Overloading.—This is perhaps the next most serious trouble. It is the custom among many riders to carry two upon a machine which was originally intended for one rider, and, as a rule, this extra weight is carried almost altogether upon the rear tire. The tire manufacturer figures a good margin of safety when putting out his tires, and tires will stand an occasional overload without much trouble. However, where the load is doubled, it is not reasonable to expect that the tire will give the same service. Automobile owners have long since learned that certain tires will carry certain weights with safety, and that where they exceed this weight limit they may look for trouble.

Care of Inner Tube.—Among other methods of care which contribute to good tire service are keeping the tires free from oil, having small cuts closed up before the water and dirt have a chance to work into the casing, and using soapstone when inserting and removing the inner tube. A great many inner tubes are ruined through careless handling. The tube requires the support of the casing at every point, and where it is twisted or folded it does not get proper support, and trouble naturally ensues. Care should be taken to exclude sand, stones and other foreign matter from the casing.

Repair of Tires.—The use of thread fabric in a motorcycle casing has been almost entirely discontinued this year, and with the use of a woven fabric a rider may feel sure that permanent repairs can be made of most ordinary injuries. A rim cut tire may be repaired by removing the coverstock and part of the fabric, working in new fabric around the clinch and putting a new cover on the tire. Bad cuts are easily repaired by removing a portion of the coverstock, replacing the damaged fabric with a patch, putting on new coverstock and curing the section.

When Worn Down.—Tires which are worn down to the fabric may be repaired so that they will be practically as good as new by removing the coverstock, repairing any worn places in the fabric, putting on new coverstock, and re-curing the tire. Many instances are on record where tires have given as much service after being repaired in this way as they did when first bought. If the rider will use care in selecting his tires, and common sense in taking care of them, there is no reason why he should not get satisfactory service. Not all tires that look good will prove so in service, and an actual road test is the only one that is worth anything to the rider.

[The above article was prepared for Motorcycle Illustrated by the tire expert of Morgan & Wright, Detroit.—Ed.]

THE photo published below shows a group of Fall River, Mass., riders, taken in front of the store of J. W. Newton, Merkel and Crouch agent. Those who, with their machines, make up the picture, are, reading from left to right, as follows: William Astley, Thomas H. Cooper, J. W. Newton, Alton Barker, William Durpee, Daniel Lewis, G. Greenalch, Frank Crook, Harold Dennis and Ernest Newton.

THE freight rate on motorcycles shipped from the Atlantic Coast to points in the West has been materially reduced. In the case of shipment from New York to Denver, for example, the new rate is $1.63½ per hundred pounds in minimum carload lots of 10,000 pounds. In less than carload lots the price will be $3.12. The old rates were $2.22 and $3.51, respectively.

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QUESTIONS & ANSWERS

V BELT — FREE ENGINE

IN a back number of your magazine, published in the fall or early winter, I remember seeing an illustration and description of a pulley to be used with a V belt, the two flanges of which were held together by means of a powerful spring so that the pull of the belt on a steep hill would separate them, causing a lower gear. There was also an arrangement for separating these flanges by means of a lever allowing the belt to run on a free pulley, giving a free engine effect. Will you kindly inform me if this attachment can be obtained and from whom, and if, in your opinion, it is a practical arrangement?

Can you suggest to me any other attachment which can be used in connection with a V belt which will give me a free engine and possibly a change of speed? The change of gear is not so much desired as the free engine, as I shall use a twin Merkel, which should give sufficient power without the change of gear.

HERBERT L. SARGENT.

Danvers, Mass.

This pulley is of British manufacture, invented by W. J. Lloyd, the designer of the Quadrant motorcycle. It is certainly a good thing at a moderate price, about $6.50 We do not know of the lever attachment for the "free-engine" act, as this automatic pulley does not need it. Again, the free-engine game "plays up" any belt, as it wears it out quickly. The Lloyd automatic pulley is a finely designed contrivance and can be recommended. The address of the makers is Lloyd Motor and Engineering Company, L. M. C. Works, 162 Monument road, Birmingham, England. This pulley will give you a variable gear and, if you will take our advice on free engines, let them alone, as racing the motor is bad for it and, as pointed out, the effect on the belt is injurious. The pulley mentioned is entirely automatic in action and it is made to fit any standard engine, but it would be advisable to send the makers the size of the shaft end and the thread required. The duty would amount to about $2.50.

ADVANCING THE SPARK

HOW far may the spark be advanced without causing the motor to pound? Can you furnish the address of the company manufacturing condensed gas in tubes for motorcycle use?

A. E. STITES.

Union, Neb.

The question you ask is somewhat complex. In the first place, the "cart is before the horse." The spark may be advanced just as far as is possible; of course the operation must be gradual and, unless on a hill, it should not produce any pounding in the motor. The object in advancing gradually is to allow the engine to pick up its speed, for it can be seen that if the spark were suddenly advanced to the limit, the firing point would come long before the piston reached the right spot and thus its upward motion would be arrested suddenly. This is termed preignition. Now it is possible under all fair conditions to advance the spark to the limit, with the throttle in the normal position. On a hill, as the speed falls off, the spark should be gradually retarded and the throttle slowly opened if any slight knock is heard. An overheated engine also pounds, and this is the result of driving with too rich a mixture. "Spare the gas and save the motor" is a good axiom, but remember always to retard "just a shade" when the slightest appreciable "knock" is heard. The Prestolite Gas Tank Company, of 1904 Broadway, New York, was intent upon supplying a gas tank in motorcycle size, but we fear that it is not yet made, although we all weep for one, and think it a good scheme.

POSITION OF RELEASE VALVE

MY machine, a twin 1908 Indian, has an air release to the cam case which, as originally designed, was so placed that considerable oil was ejected along with the air, proving very ruinous to clothes, etc. I am remedying this defect by using a small brass tube to divert the air and oil downward, similarly to the method used by the Indian people in their '09 model. It occurred to me that if this tube were led to the exhaust tube, the air would be more rapidly sucked out of the cam case (i. e., from the crank case), causing a partial vacuum. Would this result in increased efficiency, or would the gain on the down stroke of the piston be compensated by an equal loss on the up stroke?

NEW YORK.

Putnam, N. Y.

Your present release valve must be working wrongly, for it should not squirt oil out at all. Your remedy would be better if you fixed the valve on the top of a four-inch pipe. If it is a ball-valve, try a larger ball resting on a felt washer, which must not obstruct the pipe. The construction you speak of is faulty in that the oil, getting into the exhaust pipe, might cause a fire. The air would not be sucked by the exhaust so as to cause any marked increase in efficiency, so your best plan is to work the valve, as specified, and if it still splashes, fit a new release valve. Run the pipe upward and the overflow of oil will not give trouble; or your other plan would answer as well by leading the oil so as to drip directly down to the road.

WANTS AN ELECTRIC LIGHT

WILL you kindly tell me whether I can run an electric light in addition to engine ignition with a magneto on the Indian 5-h. twin?

McHenry, N. D. A. J. FULLER.

To gain the end you require, it will be necessary for you to carry either dry batteries or an accumulator, as you could not obtain the light from a magneto such as is used in conjunction with a motorcycle. A small electric lamp used in conjunction with a miniature dynamo used to be on the British market in the days of bicycles, but the constant vibration broke the incandescent wires and the company which sold it failed. This was driven by the front tire by frictional contact—lately it has reappeared in car construction in France, being used to light limousine interiors; but, friend, rest content with a good gas lamp with separate generator, and let that be "a light unto thy path and a lantern unto thy feet!"

TO FIT PISTON RINGS

WILL you please tell me how to fit piston rings?

RICHARD POLAND.

Los Angeles, Cal.

To coax off the present rings, insert the thin blade of a knife under the two opposite sides of each ring and they will slip off easily. Again, to put on new rings, insert the blades or thin pieces of steel in the ring as before, at opposite sides, and gradually work evenly until you reach the slot. Then withdraw the two blades and the job is done. Be very careful, as piston rings are made of very brittle material and should be delicately handled.

The 1908 Indians purchased by the New York Police Department have been returned from the factory, fitted with Bosch magnetos.

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CORRESPONDENCE

HIS EARLY EXPERIENCES

MY first mount—can I ever forget it? It was one of those beautiful little diamond frame models that were made in 1900. The engine, sitting in an upright position, turned the rear wheel by means of a one-half-inch round belt. The tin gasoline tank protruded over the rear wheel, and the batteries were wedged in under the seat post mast. The rims were of wood, with one and one-half-inch tires.

It is safe to say that I was never arrested for overspeeding, although when the generator valve was working to perfection, I could manage to squeeze out fifteen miles an hour.

After owning the machine for six months, a bicycle dealer induced me to pay $45 to have it remodeled, and a loop frame made. Then I sold machine No. 1 for $37 and invested in machine No. 2, made by the same firm, and of about the same model, except that the belt was flat, three-quarter inches, and the rims were steel, with one and three-quarter inches clincher tires. Machine No. 3 was a featherweight, weighing, I think, 165 pounds, and developing three and one-half horsepower and plenty of speed. But when I was offered $25 for it, I quickly closed the bargain. As for No. 4, thinking that I knew more about machines than the manufacturers, I decided to make one according to my own ideas. I purchased an old tandem frame, and, after making it twelve inches shorter, I put a 2¾-h. motor in a loop. After spending about $45 on it, I sold it, together with machine No. 2, for $15. For No. 5 I secured an '08 model and it worked fine, for about one month. Then it threw out oil, the tires blew off, it lost compression and the brake refused to work.

Now, after all my trouble, I think I have the king of all, made by the same firm which built Nos. 1, 2 and 3, a machine with twenty-inch frame, twenty-six-inch wheels and magneto.

I think there are plenty of brother riders whose experiences have cost more than mine, but although mine was costly enough, I'll never regret having spent one cent toward it.

A. B. M.

PRAISES TRI-CAR RIDING

SINCE I am a rider of a tricar, I desire to say something in praise of such a mount. I have ridden my last car about 4,000 miles, and find the sport fascinating, healthful and inexpensive. When two people can go out for the day, travel in comfort, as we do, and cover a distance of from 100 to 130 miles between 9 a. m. and 4 p. m., all for about 75 cents, for gas and oil, I wonder why so few tricars are in use. It appears that in England, France and Germany, the tricar is quite popular and gaining in prominence. With the coming of the two-speed gear, free engine, footrests, band brakes, fan-cooled engine and the magneto, such a car is an ideal mount. Some prefer the sidecar, which no doubt is more sociable, but, to my idea, is not so classy in appearance. I have recently ordered from the N. S. U. Motor Company a 6-h., nonconvertible forecar, with two speed, free engine, footrests, magneto, etc. I consider this car an ideal one, complete and perfect in construction, giving a fine, classy appearance, and powerful for any work. Give me the tricar for health, pleasure and happiness.

Yours truly.
L. L. M. SALSBURY.

Oakland, Cal.

IN your August 1, 1908 issue you printed an article, copied from the London Motor Cycle, on "Contact Breakers for Twin Cylinders," and synchronization. The author mentions a certain R. O. M. patent contact breaker and states that he considers the same much superior to the ordinary contact breaker, with two spring blades. I wish you would give me all the information you can regarding this device, also your candid opinion as to its true merit.

J. G. SCIDMORE.

We cannot trace the maker's name, but we have tried and know the contact breaker to be a good thing. Write to A. W. Gamage, Lt., High Holborn, London, England, and they will get you anything you want in this line, at the right price and promptly as well. The device makes for even firing and perfect synchronization, which is a difficult problem to solve with a twin-cylinder contact.

FAVORS THE LIGHTWEIGHT

"A GOOD motorcycle for every-day all-round use should not weigh more than 125 pounds, and I believe America will produce this class of machine. It would have magneto ignition, low saddle, possibly pedaless, especially if a two-speed gear is fitted."

The above lines appeared in Motorcycle Illustrated in August, 1907, and apparently the year 1909 will witness a fulfillment of this prophecy.

Although the writer has owned and ridden seven motorcycles hailing from different nations, he never experienced real comfort and reliability until the past eight months. His present mount, fully equipped, for visiting the trade within the radius of seventy miles, is illustrated herewith. This machine has been driven all over the British Isles, with no other mishaps than three tire troubles, one case of water in the carbureter and free wheel clogged up with mud three or four times. The mud shield, which has lately

been fitted, is one of the most needed attachments for a business motorcycle, rendering the use of leggings superfluous and protecting the shoes and limbs from the mud and cold. The front is slanting, directing the wind onto the engine cylinder, so that the engine keeps as cool as without the shield. This shield may slow the machine a trifle, although this is not worth considering. The writer has just traversed the city through the sloppiest weather of which a March thaw is capable, and habitually rides in ordinary street costume, as illustrated above.

A free engine clutch allows the machine to be started on the stand, by pushing down the right pedal (once only); the engine is then freed by the lever on left handlebar, the stand fastened up, after which, being comfortably seated, one can gradually let in the clutch and glide away very smoothly. The clutch, having twelve discs running in an oil casing, any degree of slip is permissible—you can imagine the rest.

For night riding a four-volt battery which furnishes current to a 2-candlepower metal filament lamp, gives a far better light than all the acetylene gas lamps that I have ever seen on motorcycles, and is clean, requires no matches to light, and less care and attention than any method of illumination of a practical nature.

Yours fraternally,
Manchester, England. HARRY WINTHROP.

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MAKERS AND SELLERS

SOMETHING decidedly novel is the spring suspension saddle invented by E. H. Corson, of the Motocycle Specialty Company, Boston. A pair of supplementary rear stays is mounted vertically from the rear axle, and the tops connected by a curved cross piece to which are attached three quite long spiral springs which are fastened to the rear of the saddle, while the front of the saddle is hung by two shorter spiral springs to a seat post with the angle removed. When the rider is off, the saddle and springs are in a horizontal plane. There is thus no frame or seat post angle under the saddle to limit its downward travel, and it is claimed to wholly absorb all vibration.

Chicago.—Observing that the sport has become a fad among young men of well-to-do families here, Manager Woodruff, of the Excelsior Supply Company, has engaged a corps of young men, known to club members and members of the smart set, to meet customers and tell them of the merits of the Excelsior. The idea establishes a precedent in salesmanship in the motor colony. That it is successful is manifested by the number of well known young men who are frequenting the middle of Automobile Row.

Milwaukee.—Bids for the motorcycle recently granted to the sheriff by the county board were opened last week. There were three bidders: John H. Kunz, Excelsior, $247; Jonas Cycle Company, Harley-Davidson, $225, and Comet Motor Company, $215. The committee recommended that the county board purchase the Harley-Davidson machine for $225.

Dayton, O.—The factory of the New Era Gas Engine Company is being operated night and day to fill orders for the Autocycle, gas engines and gas producers. G. W. Schroyer & Company, Main and Second streets, are local agents for the New Era.

Chicago.—Automobile owners, heretofore generally considered unfriendly to the motorcycle, are now buying the two-wheel machines with the avowed purpose of saving their big cars, according to Ira H. Whipple, the original motorcycle enthusiast of Chicago. "Owners of high priced motor cars," said Mr. Whipple, "have learned that the motorcycle is useful to them in about the same way that a tender is a handy thing to have in association with a big yacht, and they are buying large numbers of the smaller machines for purposes to which the automobile is not especially adapted. Elderly men who previously regarded the machine as a young man's toy are now becoming enthusiastic riders, both for exercise and for business."

Philadelphia, Pa.—V. L. Singley, Second street and Girard avenue, is seeking an agency proposition in this city. Singley is an active man and, besides that, his place is well situated, being located along the fine road between Philadelphia and Atlantic City. Manufacturers who have no agency in Philadelphia or who, for any reason, desire to make a change, will do well to correspond with Singley.

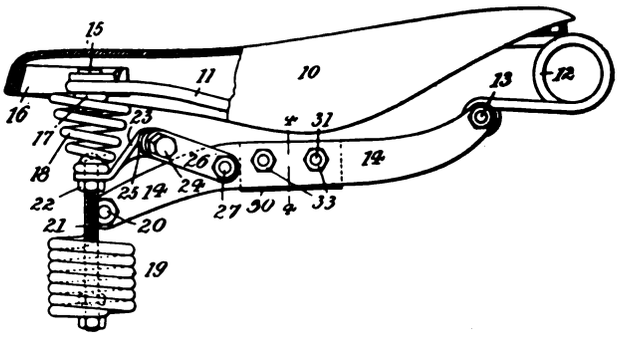
Reading, Pa.—The Reading Standard Company, after having made numerous improvements to its factory during the past summer, is now building a brick addition and contemplates further enlargements immediately after this season. The company's force has been working on double time. Over 200 people are now employed.

Dayton, O.—Harry Gross, a popular rider, who was formerly connected with the N. C. R., has engaged in business at 14 West Second street. There are now over one hundred machines in the city and Gross is enthusiastic over the future of the game in this neck of the woods. Gross will handle the Reading Standard and the Harley-Davidson.

MESINGER PATENTS NEW SADDLE—DOING A BIG BUSINESS

AMONG the recently granted patents is that of a saddle to Frederick Mesinger, 1801-1803 First avenue, New York. The description, given herewith, is evidence that Mesinger has designed something in the way of the "real article," as follows: A saddle provided with a frame, a compound back spring consisting of an upper member connected to the saddle and a lower member connected to the frame, means for connecting the members to each other, and pivoted means connecting the lower end of the upper member to the frame. The new saddle also comprises an arm, which engages the lower end of the upper member, and a link connecting the arm to the frame. The back frame consists of an upper loosely wound coniform member connected to the saddle and a lower tightly wound cylindrical member.

Mr. Mesinger has found his products so popular as to compel him to double the output of his saddles. During the past few weeks the quantity of sales, he reports, has been unprecedented in the history of his establishment. Among the largest purchasers was the American Motor Co., which has ordered 2,000 saddles. Mesinger has added materially to his working force and is in shape, despite the pressure of increasing business, to satisfy all demands for his saddles.



Mesinger Cavalry Saddle and Diagram of Recent Mesinger Patent

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THE EXCELSIOR AUTO-CYCLE

LOW SADDLE POSITION-LONG WHEEL BASE-LOW DISPOSITION OF WEIGHT

A Few of the Many Points Wherein

THE EXCELSIOR EXCELS

A powerful, silent, vibrationless motor that is big enough for the job and does not wear itself out by excessive speed to meet the overload. **A straight-line frame** that is built on scientific lines, with every point of stress properly reinforced, not merely a collection of tubing bent to dodge the motor and accessories and heavy enough to hold up by main strength and awkwardness.

A low, comfortable saddle position that lowers the center of gravity, eliminates skidding and makes the Excelsior Auto-Cycle the touring car of motor cycles. **A shock-absorbing front fork** that acts along the line of impact, that overcomes all road irregularities without jolt or jar. **A lubricating system** that places an abundant quantity of oil where it is needed and keeps it there and not on the outside of the machine or the rider.

An accessible machine, in which all parts may be reached with the least possible interference with any other part, and the wheels removed without interference with mud guards or other accessories.

Independent belt and chain adjustment, whereby both belt and chain may be kept at proper tension.

Low saddle position and free motor, enabling the rider to stop at will without stopping the motor, rest comfortably in the saddle with both feet on the ground, and proceed by merely advancing the tension lever and replacing the feet upon the pedals.

A machine that is sold at a fixed and invariable price by established dealers only, thereby protecting the buyer from depreciation in value through price-cutting by overstocked dealers or curbstone brokers.

A machine that is backed by the financial strength, factory facilities and sterling reputation of a company that has been in business since 1876.

Our new Catalog M. C. 229 gives full details. Write for it today.

EXCELSIOR SUPPLY COMPANY

233-237 RANDOLPH STREET CHICAGO, ILLINOIS

ESTABLISHED 1876

Are You Interested in a Machine That Makes Good?

If So, Write for Agency

STANLEY T. KELLOGG, Eastern Distributor, 2233 Broadway, NEW YORK

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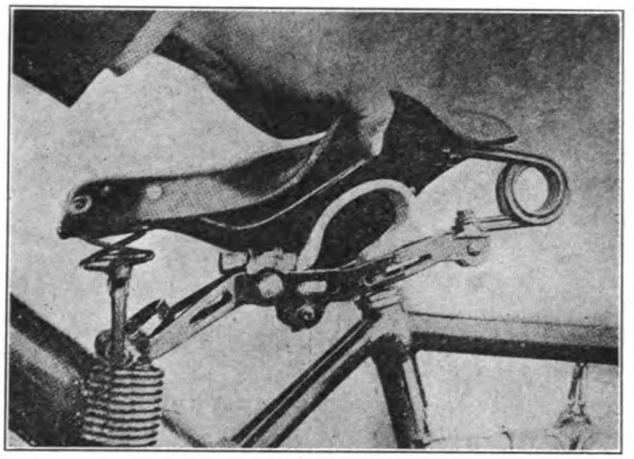
THE Anderson shock absorbing seat post, illustrated herewith, is made entirely from spring steel, flattened to about ¼x4 inches for a short distance and a very light temper is put in. The idea is to relieve the saddle of the hardest jolts and still retain the advantages of a rigid seat post. The spring is not great and does not keep a man bouncing, but when any extraordinarily hard jolt is given, this spring will relieve it. There is very little danger of breakage, as the temper does not have to be hard enough to weaken it in any way. C. Magnus Anderson, of Batavia, Ill., is the inventor of this device.



Niagara Falls, N. Y.—The Leather Tire Goods Company, of Newton Upper Falls, Mass., have just completed a new two-story brick factory here, which they will occupy after May 1st. The entire manufacturing plant and office will be moved to Niagara Falls the latter part of April and all correspondence should be addressed here after May 1st. The new factory is located on Whirlpool avenue, near the Whirlpool Rapids. It has over 10,000 feet of floor space and, with the improved machinery which is being installed, will have a capacity of over 300 treads per day. This new location will make it more convenient than heretofore to obtain Woodworth treads, for Niagara Falls, with its six express offices and seven freight roads, is one of the best shipping points in the country.

Pittsburg, Pa.—Motorcycles were well represented at the Third Annual Automobile Show held in Duquesne Garden the week ending April 3rd. The Curtiss had on exhibition one Wehman model, one standard Curtiss model, and the famous eight-cylinder Curtiss racer. W. E. Osthoff, the R-S and Marsh agent, had a fine exhibit, showing a single and a twin R-S, a tricar and delivery van. The M. M. line was represented by both singles and twins. Although the Indian was not seen at the show, the local agent, "The Motorcycle Exchange," reports the sale of ten twins thus far this season.

Pittsburg, Pa.—Among the equipment of the Pittsburg police bureau is a 6-h. twin-cylinder Reading Standard. The sales agent is the East End Cycle Company, South Highland avenue and Beitler street, East End. Seven months ago the department of public safety purchased a 1908 Reading Standard model. It was secured for the use of park policemen, in keeping tab on speeding drivers of automobiles. Policeman John Benner has already travelled over 15,000 miles on the machine, which is in practically perfect condition despite this gruelling test.

Boston, Mass.—During the first three months of 1909, 630 motorcyclists have secured licenses from the Bay State Highway Commission. This indicates an increase, in the number of riders, of nearly 50 per cent. over the figures for the same period last year, when 443 machines were registered.

Buffalo, N. Y.—A meeting of the Motorcycle Manufacturers' Association will be held here on Wednesday, April 21st.

THE American Belting and Tanning Company, 242 Chestnut street, Philadelphia, is steadily making improvements in its motorcycle belt. The company makes the following claims for its product: Beaver leather is tanned from the best French steer hides, each weighing over ninety pounds, with the principal object of producing the greatest possible tensile strength.

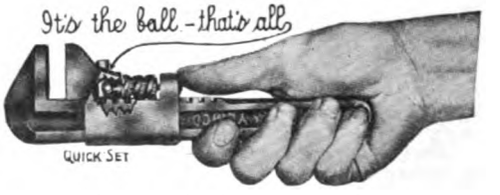
The belting, owing to its tannage, is not affected by climatic or local influences, and resists the action of water, oils, steam, gases, acids and alkalis. The belting does not slip, therefore generates no static electricity or spark, neither does it glaze nor burn.

Los Angeles.—A. L. Wilson, of Ollier & Worthington, has just returned from a trip through the Southern California territory, and succeeded in closing orders for the sale of Merkel-Light machines for the season of 1909 with the following parties: Earl C. Cook, Corona; Riverside Cycle and Sporting Goods Company, Riverside; Gowland Bros., Redlands, and the Imperial Country Motorcycle Company. Signed contracts have been received also from Heise Bros., San Francisco; Solomonson, Oakland; Hoag's Cyclery, Hanford; Ben Bresee, Fresno; A. L. Millick, Porterville; J. W. Allen, Selman, and Henry N. White, Visalia.

Topeka, Kan.—Frank M. Shanklin, the head of what is probably the largest map concern in the state, has just placed a trial order for two Indians with the Central Cycle and Supply Company. Mr. Shanklin says: "I have looked into the motorcycle proposition pretty thoroughly, with a view to placing a large order. If the two machines I have just ordered prove satisfactory, I shall secure ten more as quickly as the orders can be filled." Mr. Shanklin's concern thoroughly covers the state several times each year with canvassers, taking orders for an up-to-the-minute survey of Kansas.

Detroit, Mich.—When Morgan & Wright, the "Good Tire" makers, moved into their fine new factory two years ago, it was thought that the growth of business for years to come had been provided for. Last year the capacity of the plant, working night and day, was taxed to its utmost to fill orders promptly, and it was decided that an addition would be necessary to meet the requirements of this season's business. Building operations, nearing completion, will increase the floor space of the big plant by over 20 per cent.

Smith & Hemenway Company, 108-110 Duane street, are putting on the market the "Yemco" quick-set adjustable wrench, illustrated herewith. This is a steel forged wrench which can be easily adjusted and set with one hand and



with one operation. It is the only quick-set wrench made in which the jaw will slide to any hundredth part of an inch and hold to that point until released. Simple in construction, sure grip, positive in operation, it should appeal to mechanic, automobilist and motorcycle rider. Price, $1 each, postpaid.

Omaha, Neb.—The United States government has just purchased from Sam Boord, of the Omaha Bicycle Company, thirty-seven machines for use in the various army posts in Omaha and near here. The majority of the machines will be used for the signal service men, for whom motor vehicles have been purchased in preference to horses for fast traveling and scouting.

Aurora, Ill.—The Aurora Automatic Machinery Company reports that it is behind orders. The Middle States particularly are very generous in their orders for the Thor.

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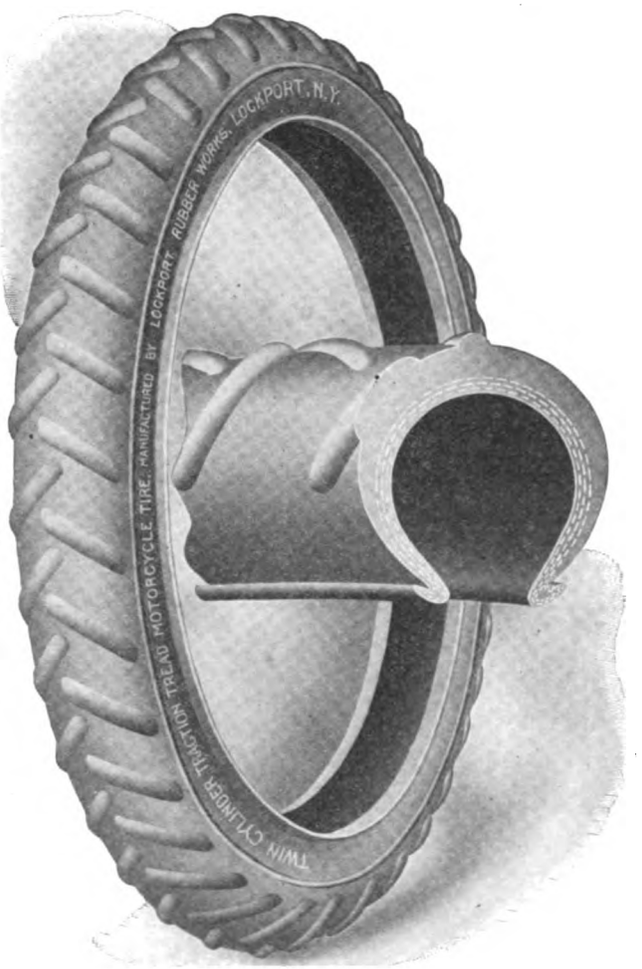
Built For a Motorcycle

TWIN-CYLINDER TRACTION TREAD ANTI-SKID

(Not Built Like a Bicycle Tire)



Traction on the Hill

Traction on the Level

Traction on the Turn

LOCKPORT RUBBER WORKS

Lockport, N. Y.

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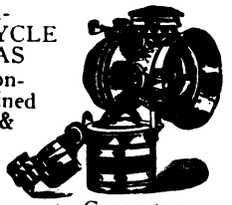
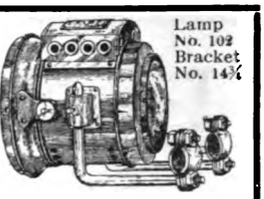


THE 20th Century MOTORCYCLE SEARCHLIGHTS

Mangin Lense Reflectors
Split Front Glass

FIRST IN STYLE AND QUALITY AND FIRST IN THE HEARTS OF THE MOTORCYCLISTS

Send for Complete List, Lamp Bracket Attachments, each and all Motorcycles



Lamp No. 102 Bracket No. 14¾

Automobile & Boat Lamps (See Catalogue) 20th Century Mfg. Co., 17 Warren St., New York City

MOTORCYCLE MART

BUY: SELL: EXCHANGE

TWO CENTS A WORD CASH WITH COPY

FOR SALE.—1909 twin-cylinder, loop-frame model Indian motorcycle, with Bosch magneto; has a Jones speedometer-odometer on handlebar, Persons tourists' tool kit, two extra exhaust and inlet valves complete; in fact, a full outfit for a motorcyclist. Machine was delivered a week ago and has been ridden twenty miles. Cost $320 as it stands, but if sold at once for cash, will sell below cost. Address Motorcycle, care of Motorcycle Illustrated.

WANTED.—A diamond frame Indian forecar. Address J. D. Jones, 165 East State street, Athens, O.

FOR SALE.—Indian 2¼-h. motorcycle, thoroughly overhauled; in good running order. Wm. D. Gilmore, 110 East Sixth street, Oswego, N. Y.

LOOK! SPRING IS HERE.—I will sell my '08 3½-h. M. M., all in best condition; has Shebler carbureter; complete with lamp, horn, etc.; only $135; will mail photo. H. Budd Armstrong, 1111 First avenue, Seattle, Wash.

FOR SALE.—Tandem attachment for Indian motorcycle having rear tank; almost new; enamel and nickel in perfect condition, $10. Arthur Gensch, 109 North Third street, Newark, N. J.

FOR SALE.—2½-h. Merkel Motorcycle; loop frame, wheels, tires and tanks; at a bargain. J. Grossman, Jr., 328 South Tenth street, Reading, Pa.

WANTED.—1908 Model Indian, R-S, or Thor; must be in A1 condition, and a big bargain; spot cash; am no beginner, so don't try to unload junk; send description. T. M. Caldwell, Box 695, Amarillo, Tex.

A GOOD opportunity to secure a first class four-cylinder F. N. motorcycle for $200. Have two of the same make. F. W. Horenburger, 2000 Tribune Bldg., N. Y. City.

FOR SALE.—Columbia motorcycle in good order. 2¼ horsepower. Has been used very little. Write for particulars. Raymond F. Haviland, Hightstown, N. J. Box 262.

AGENTS CARDS, ETC.

WELCOME, Motorcyclists! When in Cincinnati you are one and all invited to make our place your headquarters. You will be heartily welcome. Special room fitted with every convenience for the tourist. Milton Motorcycle Co., dealers in Motorcycles and Accessories, 1003-5-7 Race street, between Canal and Court streets, Cincinnati, Ohio. 'Phone, Canal, 233.

MOTORCYCLES—35 second hand machines on hand, all makes; $40 up. Send stamp for illustrated circular describing them. Tiger Cycle Works Co., 782 Eighth avenue, New York City.

SAVE chain trouble by using Ball Bearing Fibre Idler, fits Indian, R-S, Thor and Light motorcycles. For cut and price address A. C. Mount, 1158 Washington street, Elizabeth, N. J.

MOTORCYCLES thoroughly overhauled and repaired. Agents for Thor motorcycles, parts and sundries. Brazenor & Ruderman, 849 Bedford avenue, Brooklyn, N. Y

M-M AND R-S MOTORCYCLES—East End Cycle Co., Highland & Beitler, near Centre Ave., Pittsburg, Pa.

Chicago, Ill.—The Reading Standard is sold in Chicago through the American Motorcycle Company. The R-S Company had several very tempting agency propositions in Chicago, but finally decided in favor of the American Motorcycle Company, which is headed by Mr. Musselman, the well known hustler and inventor of the Musselman coaster brake, and his well known push and business ability, backed by an able organization, should make the R-S motorcycle a factor in Chicago and secure for it a goodly share of the trade.

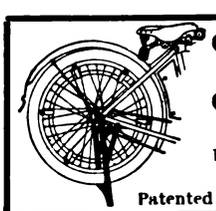
Chicago, Ill.—The Chicago Motorcycle Works is the name of a new house handling the two-wheel machine in Chicago, the headquarters being at 1118 Sheridan road, where the company makes a specialty of the Thor. The concern is known as Blankenheim & Leonard, both members of the firm being well known to bicyclists and motorcyclists through their long connection with both the business and sporting phases of the industry.

New Haven, Conn.—The Gilbert Manufacturing Company has been organized to manufacture motorcycles and motorcycle parts. The capital stock is $12,000, and the incorporators are Fredson E. Bowers, Everett B. Spalding and Louise F. Meyer.

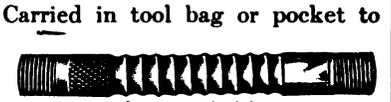
Franklin, Pa.—The Indian agency in this city has been secured by Jesse M. Williams, 18 Seventh street, who has been for some time a bicycle dealer. Mr. Williams is reputed to be a hustler and there is no question but that the Indian will be safe in his hands.

Philadelphia, Pa.—John Benders, 1334 Wood street, who, as already stated, was recently burned out, has rehabilitated his store and is seeking a motorcycle agency.

A FIVE YEAR GUARANTEE
On all PFANSTIEHL MOTORCYCLE COILS
The Leading coil. Standard equipment with discriminating Manufacturers. Reasonable prices
Reply DEPT. 8
PFANSTIEHL ELECTRICAL LABORATORY, North Chicago, Ill.



QUICK ACTION Motorcycle Stand. Raised or lowered instantly with the foot. Perfectly rigid. Absolutely Reliable.
QUICK ACTION Motorcycle Repair Pedal. Carried in tool bag or pocket to replace a broken pedal.
WRITE FOR PARTICULARS
For Sale By Most Jobbers
Patented 1909
MANUFACTURED BY
HENRY T. ADAMS CO.
6848 S. Park Ave., Chicago



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Thor Single—5 Miles—4-49⅖—Los Angeles, Cal.

Don't Be a Trailer

Thor

The Motorcycle Supreme

Prevents That Trailing Business

UP FRONT IN BUSINESS

UP FRONT RIDING ON THE ROAD

THOR DOES THE TRICK

Oh! You Dealer! You can even beat the Mail Order Man with the *Thor* Line—$150 to $300—No matter at what price, you get QUALITY and EFFICIENCY.

DISTRIBUTORS

A. FREED, San Francisco and Los Angeles
FRED. WILLIAMS, Denver, Col.
J. S. LENG & SONS CO., 33 Murray St., New York
MOTORCYCLE SPEC. CO., 258 Columbus Ave., Boston

Aurora Automatic Machinery Co. Aurora Ill.

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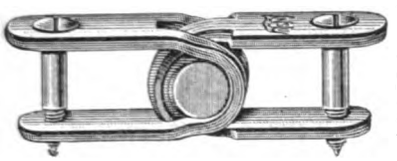
Shamrock Gloria Belt

Keep that name firmly impressed upon your mind if you want perfect transmission. Free from trouble and always clean.

IT SEEMS SMALL BUT IT MEANS CONSIDERABLE TO INSIST ON GETTING THE GENUINE.

A TIP



WHEN USING A V BELT BE SURE TO EQUIP IT WITH AN

N. S. U. Belt Fastener

They're better by far than anything on the market.
Always carry an extra.
By Mail, 40 Cents

N. S. U. MOTOR COMPANY
206 West 76th St., New York City

As a rule,

When You Say to a Customer "It's a Persons"

it is all sufficient.

When you are required to remark that it is some other saddle (and usually you know well enough that you try to dodge such remarks) you have to wade into a lot of lame excuses and explanations the whole burden of which is "It's just as good as a Persons." Of course you have to say something, but why stretch your conscience and resort to apology and explanation (all of which is transparent to the thinking man) when you can get the Persons itself and be sure of making a friend and adding to your good will account?

Persons Mfg. Company

CHAS. A. PERSONS, Treasurer
WORCESTER, MASS.

THE MERKEL WINS

The following Telegram tells the Story:

"SAN FRANCISCO, CAL., 3-29-09

"MERKEL-LIGHT MOTOR CO.

"Merkel Single won Annual Hill Climb, Motor Club, in one twelve, one fifth, defeating_____ _____, and other twins; also established new record for course, making better time than White, Stanley, Stearns, Peerless, Stoddard Automobiles.

"OLLIER & WORTHINGTON."

ANOTHER EVIDENCE OF MERKEL POWER AND EFFICIENCY

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Merkel-Light Motor Co., POTTSTOWN, PA.

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To the motorcyclist who wishes to reduce his machine maintenance expenses

Scores of motorists have proven the expense saving qualities of Morgan & Wright motorcycle tires. In races, endurance contests and the steady grind of day-after-day service, they have time after time proven themselves to be **the tires with the lowest cost per service mile.**

Morgan & Wright Motorcycle Tires

are built of heavy woven auto fabric that will stand two or three re-treads. And it takes a long time to put them into a condition to need re-treading. Both of which combine to lower the maintenance expenses of the motorcyclist who uses them.

Any manufacturer will be glad to honor specifications.

MORGAN & WRIGHT, DETROIT

CORBIN COASTER BRAKES

Corbin Duplex

Coaster Brake Model 8

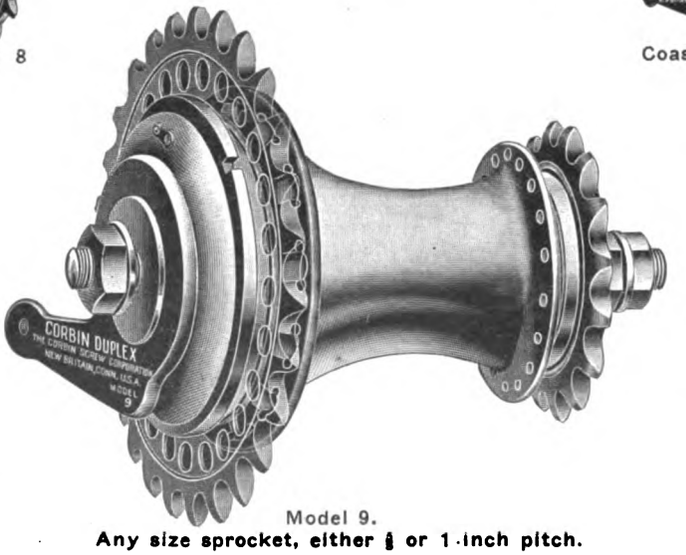
Built Throughout for Motorcycle Use.

½ inch Axle. Larger Bearings, giving longer life.

The Inside Diameter of the Brake Drum is 3 Inches, with Brake Shoes ½ inch wide, giving double the Braking Surface of Any Other Model.

Ask for Model 9

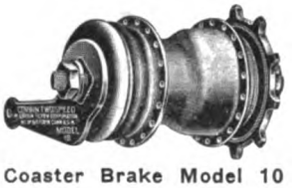
Motorcycle Coaster Brake



Model 9.

Any size sprocket, either ⅛ or 1-inch pitch.

Corbin Two Speed



Coaster Brake Model 10

Model 9 is 5⅜ in. long outside of cones $1^{15}/_{16}$ chain line.

Model 9A is 6⅜ in. long outside of cones 2¼ chain line.

Made for either Belt or Chain Drive Motorcycles.

Heavy Front Hub to match.

COMPLETE CATALOGUE ON REQUEST

Licensed Coaster Brake Manufacturers **THE CORBIN SCREW CORPORATION,** High Street New Britain, Conn.

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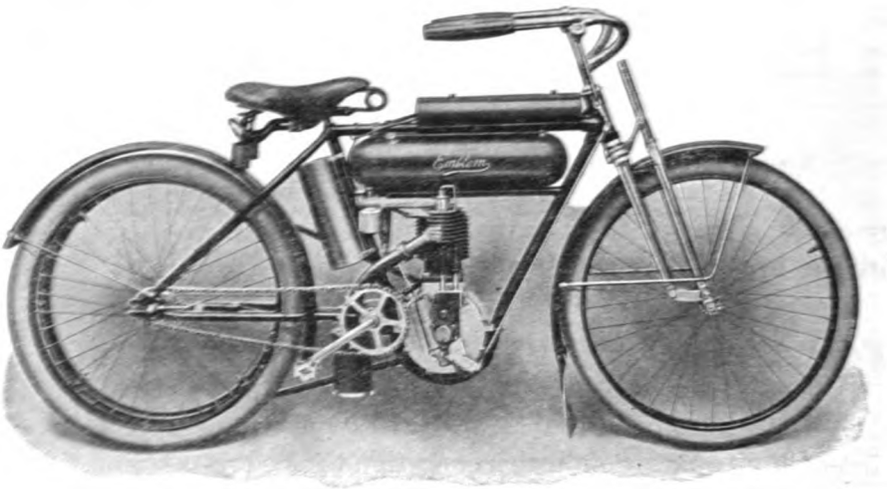
A Few Good Agents Wanted to Sell the

SENSATION OF 1909 SEASON



3½ H.P.
$175.00

4 H.P.
$200.00

EMBLEM MOTORCYCLES

Manufactured by

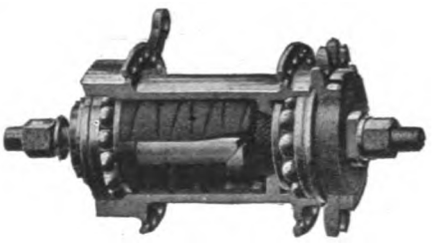
Emblem Manufacturing Co., ANGOLA, N. Y.

Simple, Strong and Efficient

These qualities are most in demand in a Coaster Brake. Where any one is lacking, perfect service is impossible. Simplicity, Strength and Efficiency characterize the

1909 Eclipse Coaster Brake

Only Eight Parts, none of which is small, delicate, easily broken or put out of adjustment. THE brake for novice or expert.



The FIRST Coaster Brake designed for motorcycle use. The 1909 model has the largest braking surface ever used.

We have been manufacturing Coaster Brakes for many years. You get the benefit of our experience. Write to us for particulars.

ECLIPSE MACHINE COMPANY, Elmira, New York

Licensed Coaster Brake Manufacturers

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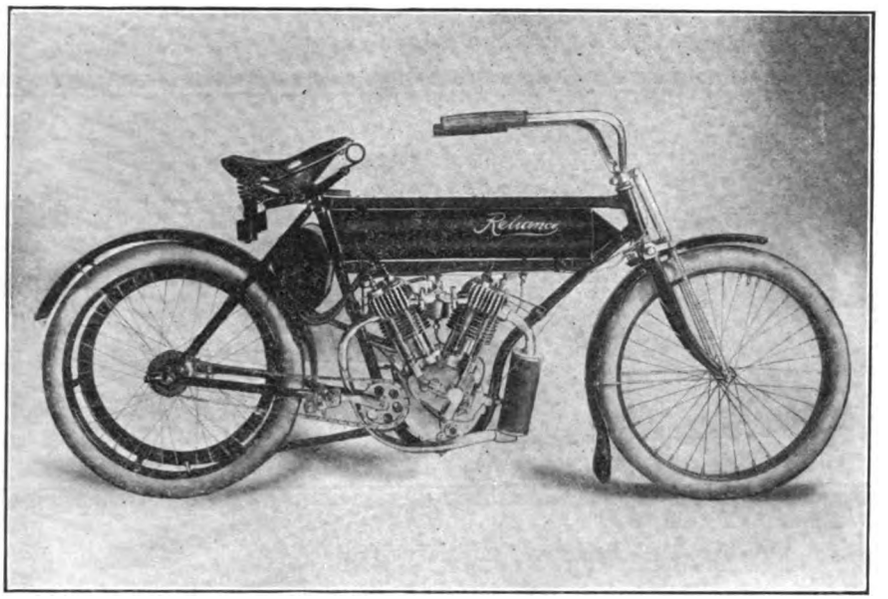
THIS IS ONE OF THE FIVE MODELS

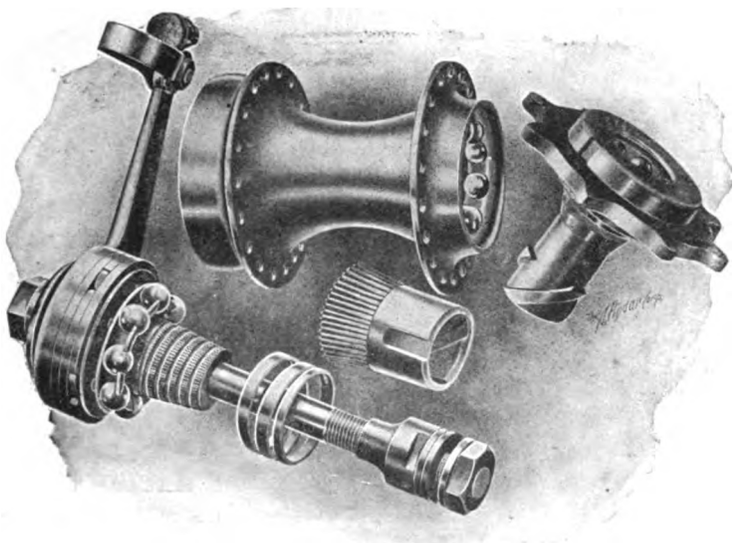


That created such a sensation at the New York, Chicago and Boston Shows.

Literature upon request.

Reliance Motor Cycle Co., OWEGO, N. Y.

You Can Depend Upon
The New Departure Motorcycle Coaster Brake



It is as strong as steel can make it, simple and few in its parts, well made, handsomely finished and the prime favorite of some of the best known motorcyclists.

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The New Departure Mfg. Co., BRISTOL, CONN.

COASTER BRAKE LICENSORS

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Kokomo Gridiron Tread

A THOROUGHLY TESTED TIRE

Long past the experimental stage, this tire is all but indestructible. If you want the best, Kokomo will be your choice.

The rubber absolutely sticks to the cloth, which is specially made of closely-woven Sea Island fabric.

Both Quality and Price will Satisfy You

KOKOMO RUBBER COMPANY

SOUTH MAIN STREET KOKOMO, IND.

Every Motorcyclist Should Know His SPEED AND MILEAGE

Both are accurately recorded by the Standard Speedometer, with Odometer attachment. Standard Speedometers are mechanically perfect. They are not, like so many others, simply automobile speedometers in miniature: instead, they are made strictly for motorcycle use, and they give satisfaction under all conditions.

CATALOGUE NOW READY

Booklet fully descriptive of our Speedometers sent on request.

STANDARD SPEEDOMETER

Three inch dial Sixty mile scale.
Complete with shaft and fittings.

PRICE $15.00

This cut shows the Standard from the rider's position in the saddle. The dial is where it can most readily be seen without effort on the rider's part.

STANDARD SPEEDOMETER ATTACHED

SPEEDOMETER-ODOMETER

Three inch dial. Sixty mile scale.
Complete with shaft and fittings and 10,000 mile odometer.

PRICE $20.00

Note the direct shaft drive. No kinks or bends to cause trouble. Shafts furnished in any length to fit different machines.

Parker Manufacturing Company, Clifton St., Boston, Mass.

Kindly always mention the paper when writing advertisers.

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BEAVER CHROME TANNED BELTING

The Ideal Motorcycle Belt

Beaver Belting is tanned by a secret process, making an absolutely insoluble leather of great tensile strength. Is not affected by climatic conditions and resists the action of water, oil and the fumes of gases. Will transmit more power, stretch less, wear longer, and is the only belt on the market that will not slip when wet.

In writing for prices specify dimensions and description of Belt required.

American Belting & Tanning Co., Specialists in Motorcycle Belts **244 Chestnut St., Philadelphia, Pa.**

The making or marring of a season's pleasure depends very largely upon the tires your motorcycle is equipped with

Every experienced motorcycle rider will tell you that it is to your best interest to SPECIFY

INDIANAPOLIS DOUBLE CLINCHER

G & J TIRES

Corrugated Tread

It means better service, more pleasure, and less tire expense. And when it comes to speed events or endurance contests Indianapolis G & J Motorcycle Tires never fail to carry off the honors.

Our catalogue illustrates not only our tires, but a lot of mighty useful accessories. Send for it.

G & J TIRE CO.

Indianapolis, Ind.

Bailey Tread

Kansas City, Cleveland, Pittsburg, Los Angeles, Atlanta, St. Louis, Boston, Portland, Omaha, Minneapolis, Detroit, Chicago, New York, San Francisco, Denver, Buffalo, Philadelphia, Toledo, O.

Have You Noticed?

That most of the Two, Three and Four Cylinder Machines are equipped with Mesinger Cavalry Type Motor Saddles, because they have the Right Shape for Comfort and have Fibre Friction Shock Absorbers.

The Mesinger Cavalry Saddle is made like a horse saddle—it prevents you from slipping and avoids that crampish hold of the hands on the handle-bars.

"CAVALRY" No. 3
(PATENTED)

Agents and Riders

Investigate the Mesinger Fibre Friction Shock Absorbers, which check the **Rebound** and prevent the **Sidesway.**

Consider: If you insist you can have the Mesinger Cavalry or Standard specified as equipment without extra charge.

There is little difference in the price, but a large difference in Comfort.

Ask for Our New Illustrated Catalogue.

H. & F. MESINGER MFG. COMPANY, 1801-1803 First Avenue, New York

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NSU

The Mercedes of Motorcycles

WINS

On Sunday, April 4th, at

LOS ANGELES

In the five mile open for the Amateur Championship of the World, the

7 H.P. N.S.U.

WINS

5 Miles in 4 Min. 12⅕ Sec.

The fastest 5 miles ever ridden on a belt driven motorcycle by an amateur.

This wonderful performance, crowning the wonderful endurance victories of all the important motorcycle contests proves the N. S. U. to be absolutely unequaled, no matter for what purpose you desire your motorcycle.

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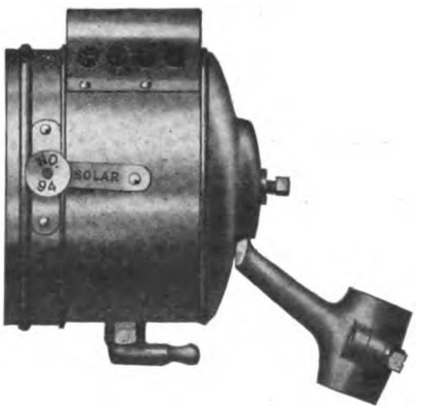

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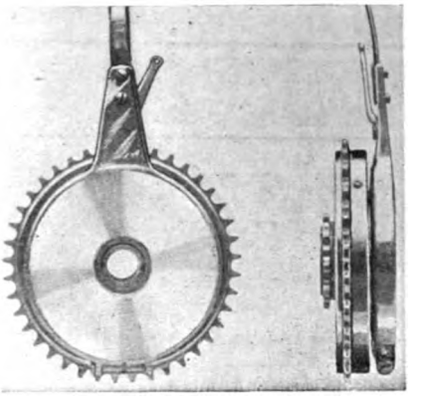

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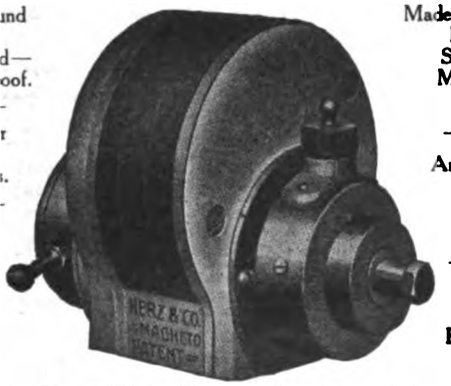

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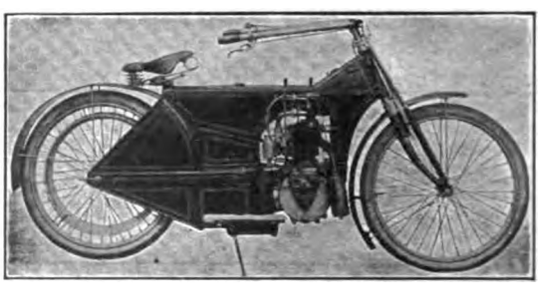

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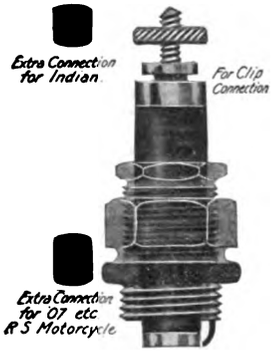

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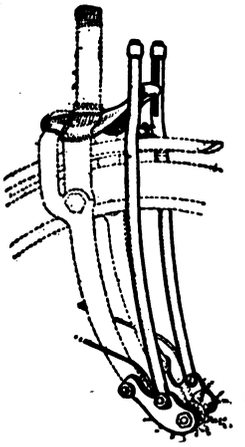

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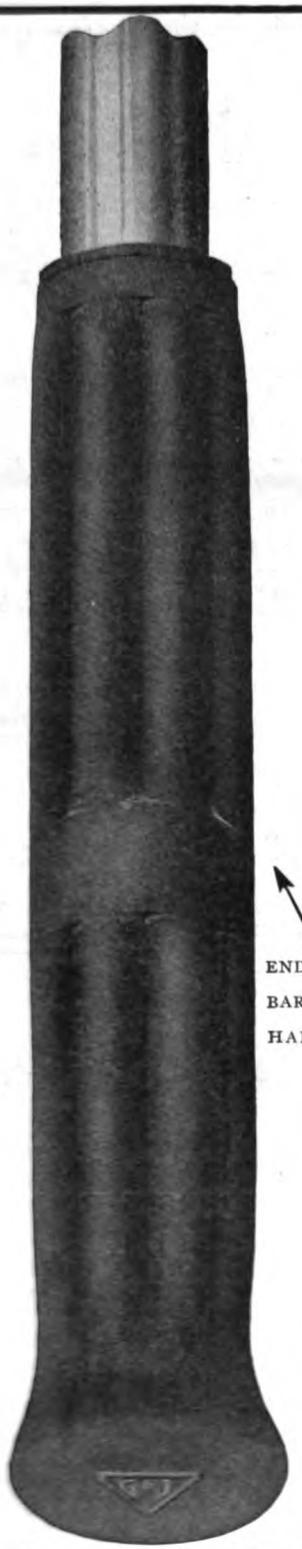

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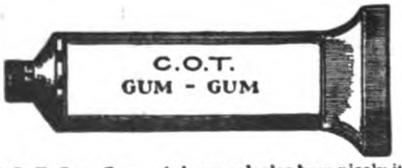

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MOTORCYCLE ILLUSTRATED

Vol. IV. No. 9 May 1, 1909

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WORLD'S RECORDS GALORE

De Rosier's Wonderful 100-Mile Ride; Averaged Better Than a Mile a Minute—Graves' Three New Figures—Fine Riding On Thor Single

LOS ANGELES.—The stirring pace which was set when Prince opened the Coliseum track here, a little more than six weeks ago, continues as though the daring riders gathered here had only begun to break records. Even a month ago, it seemed to many as though the limit of the speeding qualities of 1909 models and of the endurance of those who were guiding them in their record-smashing journeys around the local three and one-quarter lap board track had been reached. Instead, however, each Sunday's events widens the distance between last year's best performances and those of the current season. There is simply no telling where it will end.

The new record-holders, including the races conducted April 18 and April 25th respectively, are De Rosier, Samuelson, Graves, Huyck, Balke and Lingenfelder, and the machines upon which records have been made are the Indian, N. S. U. and the Thor. On the eighteenth, in the 100-mile professional, De Rosier succeeded in realizing his ambition to ride this distance at the average rate of better than a mile a minute, his actual time being 97 minutes, 59 seconds. Hardly less wonderful than De Rosier's work in this race was that of the single Thor which, ridden by Lingenfelder, was second, covering nearly 99 miles in 97 minutes, 59 1-5 seconds. In view of the fact that the cubic inch displacement of Lingenfelder's mount was only half that of the machine ridden by De Rosier, the former's accomplishment, and the work of his 3½-h. machine must be regarded as very notable.

Then there is Graves, with three records, two on the 18th, and the third last Sunday. The N. S. U. rider has succeeded in hanging up new figures for the mile, the five and the six mile amateur, as follows: 46 4-5, 3.59 1-5, 4.47. Again, Huyck did some tall riding in the four-mile amateur, on the 25th, working out new world's records for two, three and four miles, riding these distances in 1.37, 2.26 4-5 and 3.17 1-5 respectively. Samuelson came out of the background to attach a chain of laurels in the form of a series of new professional records for all distances, except five, between two and ten miles, defeating De Rosier in 8.46 2-5. Lingenfelder rode a 4-h. Thor, with a two-lap handicap, for five miles in 4.17, defeating De Rosier, on an Indian, while he broke a few more single cylinder records when he covered ten miles in 9.47 4-5. Balke, also on a Thor, did wonderfully well, winning the five-mile challenge cup race and the amateur 3½-h. ten-mile competition.

The April 25th events, conducted under the auspices of the Los Angeles Club, were marred by an accident. Huyck and Earhart collided in the five-mile, 5-h. race, the latter sliding across the track into the railing, which he broke, Earhart falling twenty feet to the ground. Although he escaped with only a few bruises, his feet struck the heads of two spectators, seriously injuring both of them. There will be no more races here for a fortnight, Prince having gone east to secure more machines. The following is a summary of the April 25th meet:

Four mile, 3-h. race: Won by Balke (Thor); Huyck (Indian), second; Irwin Knappe (Indian), third. Time, 4.44 1-5.

Five mile, 30 class: Won by Huyck; Balke second. Time, 4.47 4-5.

Four mile, for 7-h.: Won by Huyck; M. J. Graves (N. S. U.), second. Time, two miles, 1.37; three miles, 2.26 4-5; four miles, 3.17 1-5 (world's records).

Professional, 5-mile handicap: Won by E. Lingenfelder (4-h. Thor), 2 laps; De Rosier (Indian), scratch, second; T. Samuelson (Indian), scratch, third. Time, 4.17.

Amateur challenge club cup race, 5 miles: Won by Balke (Thor); I. Knappe (Indian), second. Time, 6.16 4-5.

Amateur 3½-h., ten mile race: Won by Balke (Thor); Graves (N. S. U.), second; Knappe (Indian), third; F. Lodge (Merkel), fourth. Time, 11.45.

Ten mile open: Won by T. Samuelson; De Rosier, second; E. Lingenfelder, third. Time, 8.46 2-5.

Five horse power, 5-mile race: Stopped by accident; run over as two-mile: Won by Huyck; Graves, second; A. Ward (N. S. U.), third. Time, 1.49.

Mile exhibition: Won by M. J. Graves (N. S. U.). Time, 46 4-5 (world's amateur record).

Ten mile, against time, for single cylinder records: Ridden by Lingenfelder, 9.47 4-5.

Six men figured in the 100-mile race. Paul Derkum was doped to win this long grind, which was thought to be too much for De Rosier. Instead Derkum was out of the running at the fifty-fourth mile and was decisively beaten. Trouble with his machine kept him off the track long enough to lose him the race.

Spirited track duels kept the throng interested during the two hours of racing. Derkum and Arthur Mitchell, the latter on an N. S. U., furnished thrills for twenty miles. It was a see-saw race between the two riders.

De Rosier dropped behind during the first leg of the long race, and was lapped by Derkum in the fifteenth mile. He

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Graves, Mounted on an N. S. U.

was content to make a plugging drive. His fast riding was done during the last seventy miles of the grind, during which he broke all records, as will be seen from the following table:

Miles.	De Rosier's Time.	Old Record.
5	4.23 3-5	3.56 3-5
10	8.45	8.12
15	13.12	12.55
20	17.44	17.01 2-5
25	25.07	23.18
30	29.41	31.20
35	34.23 2-5	37.12 2-5
40	38.54	42.32 2-5
45	43.29	47.59 2-5
50	48.21	53.11 1-5
55	53.14 4-5	58.23 4-5
60	57.51	1.04.09 1-5
65	1.04.27 4-5	1.09.22 4-5
70	1.09.07 1-5	1.14.42 2-5
75	1.13.46	1.20.00 1-5
80	1.18.34 1-5	1.25.19 2-5
85	1.23 25 3-5	1.30.37
90	1.28.18 1-5	1.36.03
95	1.33.12 2-5	1.42.03 1-5
100	1.37.59	1.47.44

M. J. Graves and Fred Huyck furnished the sensation in the amateur events. The terrific pace set by the local boy on his N. S. U. machine broke all previous records for the distance, the new mark being 4m. 47s. The time for the five miles was given at 3m. 59 1-5s., which betters the amateur record of 4m. 11 2-5s., made by Huyck on the same track.

Graves, Huyck and Blaylock started. Graves and Huyck both opened their machines wide on the first lap. The N. S. U. motor was hitting perfectly. For five miles the two riders, probably the best amateurs in this country, rode neck and neck. Graves held the pole on every lap, but at times the Chicago boy nosed his mount inches ahead of the local machine.

Graves never shut down an instant, however. He was out to win, and the support of the crowd nerved him to a supreme effort. Toward the end of the fifth mile he began to pull away from Huyck, and increased his lead on every lap, finishing twenty-five yards ahead of the Chicago wonder. Blaylock was never a factor in the race.

The curtain-raiser was a four-mile amateur dash between Huyck, Graves and Balke, in which Huyck led all the way, and came within a yard of lapping Graves. The time was 3m. 45s. Huyck made a runaway race from the start. Both Graves and Balke had beaten him in previous races, and the easterner opened up an advantage at the start which even Graves on his speedy N. S. U. was unable to overcome.

Summary of events:

Amateur four-mile open, for fully-equipped machines of fifty cubic inches piston displacement or under: Won by Huyck (Indian); Graves (N. S. U.), second; Balke (Thor), third. Time, 3m. 45s.

Amateur four-mile open, for machines of four-horse power or under, single cylinder: Won by Huyck (Indian); Balke (Thor), second; Seymour (R. S.), third. Time, 3m. 55s.

Amateur six-mile open, for machines of sixty-one cubic inches piston displacement, flying start: Won by Graves (N. S. U.); Huyck (Indian), second. Time, 4m. 47s. World's record.

Professional 100-mile open, for machines of sixty-one cubic inches piston displacement or under: Won by De Rosier (Indian); Lingenfelder (Thor), second; Samuelson (Indian), third. Time, 1h. 37m. 59s. World's record.

The following is a summary of the April 11th races:

Amateur, four mile, fully equipped machines, 20 cubic inches piston displacement, standing start—First, Fred Huyck, Indian, time 5.16 2-5; second, M. J. Graves, Indian; third, Charles Balke, Thor; fourth R. Seymour, Kohl.

Five mile professional, open, 61 cubic inches piston displacement, flying start—First, De Rosier, Indian, time 3.56 3-5; second, Lingenfelder, Thor; third, Mitchell, N. S. U. In this event Derkum rode one of De Rosier's Indians, but his gasoline gave out.

Amateur. five mile, open, fully equipped machines, 40 cubic inches—First, Fred Huyck, Indian, time 4.42 3-5; second, R. Seymour, R-S; A. Ward, N. S. U., dropped out on the third mile.

Amateur ten mile, open, flying start, 61 cubic inches—First, Fred Huyck, Indian, time 8.12 (world's record); second, N. S. U., beaten by one-third of a lap.

Professional ten-mile match won by De Rosier; time, 9.12 1-5. In the first trial, Derkum's tire went flat; in the second De Rosier's tire gave out; in the third, Derkum borrowed one of De Rosier's Indians, but his handlebars came loose, and he was obliged to slow down, though he finished the race.

Amateur five mile, handicap, for machines under 50 cubic inches, standing start—First, Charles Balke, scratch, 5-h. Thor, time 4.37 4-5; second, M. J. Graves, one-third lap handicap, 6-h. N. S. U.; third, R. Seymour, R-S, two-thirds lap handicap; fourth, Huyck, 4-h. Indian, scratch.

Professional fifteen mile, open—First, De Rosier, Indian, time 12.58 2-5; second, Lingenfelder, Thor; third, Mitchell, N. S. U. Derkum started in this race on an Indian, but his tire came off and he was obliged to quit.

"Fearless" Balke, Thor Rider.

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THOUGH DEAF AND DUMB, HE'S A RIDER

Not Only That, But E. R. Eck Travels Safely On Both a Twin and a Forc-Car.

HE "TELLS" HIS STORY

THE editor of this paper held a "talkless" conversation a few days ago, and it proved to be far more interesting than many in which he and his fellow-talker had used their tongues and their auditory paraphernalia. For some time, twice each month, promptly on each day of publication, an unassuming mute has been visiting this office to buy a copy of MOTORCYCLE ILLUSTRATED, which he evidently read with something akin to religious fervor. Curiosity finally prompted the writer to learn something more of the mysterious visitor, and thus it was that, with the help of pencil and paper, the following remarkable story was brought to light.

E. R. Eck, who lives in Bensonhurst, is a deaf mute. Despite his affliction he was a great rider in bicycling days. As an introductory, he brought forth a long ribbon upon which were pinned no less than seventy-five C. R. C. A gold century bars, which he displayed with manifest pride. One would imagine that, with such a handicap, century bicycle riding would have been the limit of Eck's ambition. Yet not so. Instead, the Bensonhurstite aimed to be the first deaf mute to ride a motor-driven two-wheeler, and, accordingly, nine months ago, Eck acquired ownership of an M. M. twin cylinder and, subsequently, a forecar. Eck and his wife, who is also a mute, seldom miss an opportunity for a drive over the fine roads which traverse Long Island, and the owner of the machine has had practically no trouble of any consequence. But let Eck "tell" his own story:

"Of course, I can hear neither the vibration of my machine nor the noise of the exhaust from the muffler of my engine. You can readily understand that I must therefore use my eyes much more than any other riders have to. Still, notwithstanding the fact that my first mount was a twin seven horsepower, I have had no difficulty in managing it, and think nothing of making a hundred-mile run. I am somewhat of a mechanic, I take good care of my machine, and I use my head when out on the road.

"Before I start out, I take a good look behind as well as ahead of me. When in my saddle, I keep a watchful eye as I travel along the road. I slow up, of course, within safe distance of a railroad or trolley crossing. If a fire engine, an ambulance or a runaway is approaching from my rear, I get warning from the people on the sidewalk, not directly, but through their lining up on the curb, and, instead of watching me, by their looking in the direction of the approaching vehicle. Then I dismount, and stand by until there is no longer any danger.

E. R. Eck and His M. M. Twin.

"You can imagine that my trips were rather lonely. Therefore, I bought a forecar not so very long ago, and now my wife accompanies me on many of my tours. She finds the sport so attractive that she never declines an invitation to go out with me. Besides, she has the utmost confidence in me, realizing that I thoroughly know my machine and that I am a very careful rider.

"The motorcycle is not a toy. It should not be tinkered with, and yet it requires reasonable care. An overhauling and adjustment of some of the parts, after each mileage of one hundred or so, is a good plan. Half of the time the fault is with the rider, instead of being in the machine. The speed craze is largely responsible for machine troubles, caused by failure to give as much attention to one's machine as to the amount of ground it can cover in a certain time. Fifteen or twenty miles an hour is fast enough for me."

AN ATTRACTION TO BOTH THE MASSES AND THE CLASSES

"YOU ask," said a metropolitan agent the other day, "whether the so-called well-to-do classes are likely to take to the motorcycle. Why, my dear man, they have already taken to it." "You don't think so? Well, I happen to know. Take my word for it, no one is too good for the motorcycle. Its popularity among people of means is increasing day by day. Oh no, I'm not telling you this for the pleasure of hearing myself say it. On the contrary, my friend, my experience proves that I am right. The public, irrespective of classes or of the amount of the wherewithal individuals are able to command, is getting into the sport everywhere, and the result of your observations by the wayside next summer will be a distinct eye-opener in this particular direction."

The dealer in question sells a high-priced machine. He recited a number of instances of sales to auto owners and to men who, if not possessors of automobiles, were in position to have them. "It's just like this," he said. "Why do men who have rich, red blood running through their veins ride horseback in preference to riding in a carriage? It is simply because of the individualistic character of horseback riding. It is more exhilarating; but, most important of all, there's something distinctive about horseback riding. You feel as though the animal beneath you were part and parcel of your own personality. So with the motorcycle, as compared with the automobile. When the little machine, completely under your own control, glides along at a pace that even a locomotive engineer would admit to be 'going some,' you come to know what it is to live. There's nothing else like it in all the world. You become part of your machine, while the machine—well, it's part of yourself. You forget everything else—everything except the exhilaration of your swift passage through space.

"You feel that you are motion personified. Where the conditions are ideal the state of your mind is indescribable. As you fly along there are no longer two factors—yourself and the machine—but rather a single entity, a combination of flesh and blood and metal, in perfectly harmonious relation making a laughing stock of space.

"Pardon me for this impromptu excursion into the realms of the poetry of speed. Ah, my friend, you who have never ridden as I have, cannot understand. But take it from me that this feeling is the magnet which is attracting all classes, the rich and the poor alike, to motorcycling."

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Yard in Rear of Lincoln Holland's Shop in Worcester, Crowded

PATRIOTS' DAY RUN TO WORCESTER

THE riding season in New England was formally opened Patriots' Day, and nothing less than magnificent was the demonstration of which this holiday was made the occasion. Good old Worcester was the center of interest to no less than three hundred motorcyclists, hailing from all parts of Massachusetts, Connecticut, Rhode Island and New Hampshire, among their guests being Earle L. Ovington, president of the F. A. M.; Dwight Patterson, president of the New York Club and chairman of the F. A. M. Legal Committee; LeRoy Cook, secretary of the New York Club, and a number of other Empire State riders. The largest representation of club members was had by the Commonwealth, the Massachusetts organizations, both of Boston, the Springfield crowd, and the Providence Club, whose home is the capital of Little Rhody. The day was ideal, the heavy thunderstorm holding off until most of the riders had reached their homes. The attendance, if anything, exceeded expectations, nearly three hundred followers of the sport being regaled with a fine dinner at the place of their destination. The meet was the greatest of its kind New England has ever witnessed.

Many Cities Represented.—Rarely has so much gasoline been smelled in one day in Massachusetts. It was the old familiar odor in all the old familiar places. Every gust of wind bore a fragrance that made drivers of machines of every description snort with delight. Among the cities represented were: New York, Springfield, Boston, Providence, Worcester, Keene, N. H., Waltham, Lynn, Brockton, Fitchburg, Hartford, New Haven and New Bedford.

Start from Copley Square, Boston.

A Great Event.—The run was important for several reasons, one being that it is the first of a proposed series of annual Patriots' Day runs. Worcester was selected for this year because it is a central point, easy of access from all parts of New England. Another thing that aroused enthusiasm was the announcement that the run is likely to lead to a union of the now rival Massachusetts and Commonwealth organizations. It will take time, it is claimed, to bring this about, and the hope is advanced that the cooperation made necessary in the big meet will engender the affiliation feeling in members of both clubs. A third reason was the fact that the meet was in the nature of a reunion, or run together of cyclists well known to each other by repute, but who had not previously had very much opportunity of striking up acquaintances with other motorcycle bugs.

The First Ones In.— The first riders were on hand at 11 o'clock. They were taken in hand by President F. A. Brooks, of the Worcester Motorcycle Club, and Lincoln Holland, Jr., at whose place of business in Allen court, temporary headquarters were established. Long before noon more than 100 machines had been cared for, and by 1 o'clock 250 machines were stored off in the court and on the land back of the *Telegram* office. At 1 o'clock, the riders were taken to Franklin Hall, 554 Main street, where an excellent dinner was served, Rabboli catering. As the crowd was beyond expectations of the committee, the best that could be done was to seat 200 for the first sitting. The others were accommodated later.

Among the speakers at the banquet were Messrs. Ovington, Patterson, John Fecitt of the Massachusetts Club, and President Mann, of the Commonwealth Club.

Not All Had Dinner.—Not much more than one-half of the cyclists who made a start got to Worcester in time for the dinner, according to the reports of the late comers. At 12.30 o'clock a rider brought the news that all the way from Boston to Wayside Inn the cyclists were strung out along the road, many having repairing to do to some part of their machines. The same tidings were brought in from the west, and it was estimated that probably as many as 500 made the start to come to Worcester. This almost

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with Riders and Machines on Which They Made Great Run.

NEW ENGLAND'S GREATEST EVENT

tripled the expectations of the committee in charge of the reception arrangements. As the motorists stood and chatted in Allen court, or else posed for the numerous photographers on hand, hundreds of Worcester holiday people became spectators of the busy scene. Men, women and children gazed and only quit when the cycles began to chug off along Main street at 2.30 o'clock.

Everybody Wore a Ribbon.—Though almost everybody wore a ribbon, the colors of the Commonwealth and Massachusetts clubs predominated. The Commonwealth colors were buff and blue, which were worn by riders from other places. The Massachusetts club color was pale blue, and scores were on hand to make a good showing for the organization. The majority of the riders hailed from Boston, leaving Copley square at 9.15 o'clock. Scores of these did not get in on time for dinner. There were about 150 Boston riders in attendance.

Good going was reported by all the cyclists, considering the early season. The delegation which came up from New York, led by Mr. Patterson, reported a dandy ride all the way. A non-stop run was made from Springfield, which was the day's record. The party left Springfield at 10.05 o'clock and arrived at Allen court at 12.18, without making a single stop.

Fred Hoyt Was There.—From Springfield came seventeen cyclists, in charge of Captain W. H. A. Kothe, of the Springfield club. From the Home city came ten, in charge of Captain William Tebeau. The Massachusetts club delegation was led by John Fecitt and A. A. Hoyt, that of the Commonwealth club by Captain Theodore Rothe. President W. F. Mann, of the Commonwealth club, assisted in the run and cared for the cyclists as they arrived.

Among the participants was Fred Hoyt, the erstwhile racing man, who, although he has not ridden for many years, came into Worcester as one of the Commonwealth Club, reporting that he had had no trouble at all with his machine.

Interesting Features.—Just to show the spirit of comraderie which riding a motorcycle produces, mention may be made of the fact that one of the Providence men had fitted his machine with such paraphernalia as to enable him to pick up and tow those riders who had been stalled. Other features of the run were the contests for women, for smallest and largest rider, also the trick work of Clarence H. Ellis, 599 Bennington street, East Boston, who, though shy of his left leg, managed to make the other motorists sit up and take notice at his deeds.

The women in the running were Misses Gertrude Wilson and Mary Drake and Mrs. H. E. Dame. After the canvass, August Beirstorf, formerly of Worcester, and a member of Gesang Verein Frohsinn, now of Boston, was declared the biggest rider present. He weighs 260 pounds, and has never yet bursted a tire, he says. Donald T. Pope was awarded the ribbon for smallest cyclist. He is thirteen years of age, weighs ninety pounds and comes from Boston.

Order was maintained in the throngs at Allen court by Policemen James J. Casey and John F. Conlin.

The committees in charge was: From Commonwealth club, Secretary G. A. Ellsworth, George N. Holden, W. F. Mann, president, A. D. Peck, E. H. Corson; from the Massachusetts club, A. C. Hall, Secretary C. E. Smith, M. T. Marsh and Captain A. A. Hoyt.

A large amount of preliminary work was necessary to obtain good results and a big share of the success is directly attributable to the untiring efforts and financial support given the project by Mr. W. T. Marsh. He was ably assisted in the work by Mr. C. E. Smith, secretary of the Massachusetts Motor Club.

A little misunderstanding as to the disposition of the cup arose after the affair was over, but it was finally awarded to the Massachusetts Motor Club.

Ellis, the One-Legged Marvel.

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THE A. B. C. OF MOTORCYCLING

Part V. When Your Machine Arrives from the Factory—Running it on the Stand—First Road Lessons.

ROLLAND C. LAURIE

I WILL assume that the would-be rider has, after many delays, received his motorcycle. He has taken it out of the crate and longs to ride it into the "great unknown"; but, brother, let us pause a while before venturing out on the road. First, fix on your accessories. If the makers have not supplied a stand, get one forthwith, for you cannot well do without it. Jack the machine up on the stand, step back two paces and think. First, find out which is the oil tank, by looking for the "leads" from the pump. Unscrew the stopper or filler for the oil compartment, and fill up with the *very best "air-cooled"* oil, not "water cooled," as that is used for automobiles and is too thin in "body." Replace the stopper or filler, and if the engine is oiled by hand pump, give her a pumpful of oil; don't forget this, as many a new engine has been ruined by a novice through the omission of just one pumpful of oil. Now throw away your cigarette, as you are going to play with gasoline. Unscrew gasoline filler and fill up the tank through a funnel (which you should buy) fitted with a gauze for the purpose of preventing water or any foreign material getting into the tank. A very good plan is to "flush out" the tank with a little gasoline, if a drain cock is fitted; if not, by unscrewing one of the gasoline pipe unions, for the reason that often a workman will leave the inside of the tank dirty, and sometimes a few minute particles of brass and solder will find their way into the carbureter, unless a gauze is fitted at the gasoline outlet. Now, run over the nuts and bolts of the machine with a "spanner" or wrench, as a careless mechanic may have neglected to tighten these. Then, while you have the tool case open, fill up your oil can with *good* machine oil, not engine oil, and oil the bicycle and bearings. Now you are ready to start her up on the stand to learn the "feel" and the various functions of the levers.

To Start Off.—*First* turn on the gasoline tap. Don't forget it, as many a novice has struggled for half an hour to start up with the gasoline cock shut off. Then "flood" the carbureter by depressing the spring button at the top; do not get into the habit of hammering this with your hand, as you may puncture the float by doing so constantly. Now if the machine is a magneto ignition, advance the spark lever three-quarters or half; if the machine has a magneto switch, don't forget to switch it on. The reason for advancing a magneto is that a "fatter" or hotter spark is obtained by so doing, thus making for an easier start. If the machine is fitted with battery ignition, switch on the current and retard the spark lever. You will, of course, note that you must first ascertain the function of each lever, whether fitted on the handlebar or tank top. The spark lever will, of course, operate the contact breaker, either on the engine in a battery ignition machine, or on the magneto in the more modern type. Now open the "throttle" lever, which runs to the carbureter, and, whether the additional air lever is fitted to the machine or to the carbureter (as it is in some cases), close the air opening so as to give the engine a good "sucking" power to start with.

The exhaust valve, you will notice, is fitted with a lifting device to ease the compression for starting or slowing down. Get in the saddle and lift this lever, and pedal sharply for a few turns, drop the exhaust valve—and she should start. If the engine does not start, first try the advance spark lever in one or two places. If then no success is met with, see that the carbureter is flooded and try the air lever in a different position. *Very rarely* will a machine be sent out which will need any adjustment; sometimes the plug points are not adjusted properly. A rough rule for plug-point adjustment is: In battery models, the thickness of a thin visiting card so that it can be just passed between the points; in magneto models, about two-thirds of this distance is best.

Learning the Levers.—Now as soon as the engine is started get the correct adjustment of the air lever by shutting off the throttle lever until it is almost closed, opening the air lever gradually and moving it backward and forward until the exact position is found where the engine runs at its best, without a "miss." Some carbureters do not have this air lever fitted, but are what is termed "automatic"—having an air shutter which adjusts itself to the various speeds of the engine. *Do not* run the engine too long upon the stand; about a minute should be the maximum at any time, as you are likely to overheat your cylinder, and overheating produces "pitted" valves, "twisted" cylinder bores and other ailments. Learn the "feel" of the various levers, the spark control (noting its acceleration), the throttle, the switch for stopping, and, having noted all the forms of control and methods of stopping, *particularly* the operation of the exhaust valve lift; then prepare for a road trial.

First Lessons on the Road.—As I pointed out in the first instalment, there are two types of motorcycle rider—the one who *knows* his machine and gets the very best results out of it, and he who does not bother as long as the engine takes him along "somehow." Beware, my brother, of becoming one of the latter type, for this man storeth up trouble and expense for himself. Instead, learn to "nurse" your engine and humor its many whims and moods, and you will become an expert very shortly.

Now, there are two methods of mounting, one by pedaling, which is laborious and not remarkably graceful, and the other a running mount, which is easy to attain, and, according to the advertisements, "once used, always used." Get the left side pedal at its lowest point and, lifting the exhaust valve (arranging the levers as before) run a few steps and, placing your left foot on the down pedal, drop the exhaust valve as you swing into the saddle. When starting on the road it is advisable not to have the throttle full open, half way or even a quarter generally being sufficient.

It is best to drive, varying the speed as required, with the advance spark lever, as this method of driving, with almost closed throttle, does not use so much gasoline nor does it tend to overheat the engine. Often a "cut out" is fitted to the muffler; do not use this except in the open country, and then as sparingly as possible, as a noisy motorcycle produces prejudice against our sport. Be considerate to other road users. Moreover, a cut out is not a necessity, as a muffler should be so designed as to give very little back pressure and, in time, doubtless we shall see cut outs disappear from general use; in fact, many of our leading manufacturers are not fitting them as a standard rule. In my opinion a cut out has only one good point; that is, when running the machine on the stand with the cut out open, one can tell from the color of the flame of the exhaust whether the "mixture" is right or no. When the flame is red and black smoke is mixed with it, the mixture is too rich, and more air should be given to the carbureter. When the flame is yellow, the mixture is too weak. A good driver can tell from the sound of his engine and the "pull" of the same whether he is getting the best mixture or not.

Hill Climbing.—The best way to tackle a short grade is, of course, to rush it. A long hill with, say, a steep pitch at the top, is a different proposition for the novice. When he comes to such a hill, having an easy approach, with his engine normally "cool" and giving off its best power, he should advance the spark to the furthest notch, and if the

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first bit of gradient is very steep, open the throttle only *very slightly* from the normal. As the speed falls off, slightly retard the spark and open the throttle, say, half way, or slightly more, according to the gradient. Save the "full throttle" until the worst bit comes and always remember, at the slightest "knock" in the engine, to retard the spark one notch. Always coast down a slope with the exhaust lift up, as the cool air tends to reduce the heat of the engine. When coming to a long hill it is advisable, if an oil pump is fitted, to give the engine about half a pumpful of oil, as a hot engine consumes the oil more quickly than in the ordinary riding.

A novice should never try to steer round a corner fast with the engine running; leave such stunts to the daredevil expert. When first out on the road, learn the braking power of your machine and find out in what distance you can pull up at different speeds, as this knowledge may save you in many a tight corner. A motorcycle fitted with a switch has a distinct advantage in that the engine, when switched off, acts as a powerful brake in itself up to a certain speed; over that, the momentum of the flywheels overcomes the inertia of the piston and compression to a very large extent.

Carbureter Adjustments.—As I have explained, there are some carbureters with adjustable air intakes; in these, of course, the operation of finding the correct "mixture" is easy, as all one has to do is to move the lever or adjusting sleeve until the correct mixture is obtained, which can be told by the rapid and regular acceleration and pulsation of the engine. Also, there are automatic carbureters which, to a certain degree, adapt themselves to giving the exact proportion of air but, although these are being used a great deal they have not reached that sublime excellence which makes for a *perfect* mixture at all speeds and at all variations of atmosphere and climate. Thus, an automatic carbureter is often semi-automatic in action and is fitted with an adjusting screw to the air valve. It is known that a damp atmosphere or a dry, hot day will give different vaporization capacity to the carbureter. Or, again, a change of altitude, this being of course *appreciable*, occasionally has the same effect; therefore this air-adjusting screw is fitted so that the rider may adjust his carbureter to meet the conditions, and any practised rider can manage this from the saddle, while the machine is running on the road; otherwise it is only a matter of a few seconds to do this by the roadside, running the machine on the stand for this purpose.

The main points to remember in riding are these: "Nurse" your engine, holding down the gasoline consumption and thus keeping the engine cool; lift the exhaust when coasting down a long hill; be careful in crowded streets, as it is the motorist who is at fault, in the biased mind of the public; drive with the advance lever or grip, whichever may be fitted, rather than with the throttle; ride carefully in the mud and keep as near the crown of the road as possible on a muddy day; cross all car lines at a wide angle; don't blame the motor if, perchance, you have a breakdown—it probably is your own fault through having omitted some adjustment, or through having driven badly on some occasion; above all, *don't forget to give the engine oil.* A new engine requires more oil than one that has been "run in," as the piston is not so free and the parts need to "get acquainted" with each other before working in unison, as in Rudyard Kipling's story, "The Ship That Found Herself." As in all other matters, first master the elements of driving, such as starting, mounting, stopping at various speeds, hill climbing, accelerating and slow down. Do not strive to become an expert or a speed king all at once; it will come in time and will come naturally.

Remember always, as I have pointed out, to be considerate to other road users, and try to gather your friends "into the fold" by your enthusiasm for the sport. I do not wish to be egotistical, but I am proud of one fact: I have succeeded in bringing many riders into the ranks. Among the converts I have made I can name one Northwest farmer whom I met on the prairie; a "gendarme" in France; a custom officer in Switzerland; an English magistrate, and many others; so there will be much to answer for when my engine of life breaks its connecting rod.

[Other hints of great value to the average rider will be found in "Questions and Answers," and the article on "Running Adjustments," published elsewhere in this number.—ED.]

THE group of enthusiasts whose photos are reproduced below compose a section of what is known as the "Indian Club," probably for the reason that their rendezvous is the Widmayer store, 2312 Broadway. They are a bunch of good fellows, and they know how to make the most of the motor-driven two-wheeler.

A ROAD race, to be run over the Lagoon course, will be held in Salt Lake City this spring. George Carter, a Salt Lake dealer, and Iver Redman, are promoting the event. Those entered thus far are Raymond Boes, Harold Peck, Walter Cheesman, E. W. Hall, Glenwood Smith, W. T. McDonald and E. C. Carlson.

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TIMELY TOPICS

INDIANAPOLIS, IND.—Gus Habich, an enterprising local dealer, and J. E. Merz, manager of Habich's Motorcycle department, played the role of hosts to several score riders on a run to Shelbyville. To prove that their guests had a good time, it is necessary only to refer to the invitation, which is self-explanatory, to wit.:

"A German sporting goods dealer at 142 East Washington street has taken an overdose of 'cylinder oil' and loosened up his 'intake valves' to such an extent that his 'grip controls' his pocketbook no longer, and he feels that it is his duty to dispense some German 'gasolene' among the motorcyclists of Indianapolis. So put on your 'muffler' and we'll 'hang the cranks' with the 'chain' or put 'em behind the 'bars' at Shelbyville, Indiana, next Sunday.

IF any one can supply us with proofs of harder luck than will be found contained in the following story, we should like to hear from him. The Lancaster, Pa., *Examiner* of recent date published this item: "When an automobile struck and tossed a dog and the flying animal hit a motorcycle and caused the rider to be hurled head first against the passing automobile, George Norton was so seriously injured that at first it was believed his skull had been fractured. It was found, however, that he had sustained a severe laceration of the scalp and that a blood vessel in his head had been severed. Surgeons say he will recover." We hope so.

A RECORD run of 176 miles from Temple to San Antonio, Tex., was recently made by C. E. Winn, his time being seven hours and forty minutes on his motorcycle. This is the fastest time ever made on such a machine between the two cities. Mr. Winn rode an Armac motorcycle, built for racing, and he lost but ten minutes for a puncture on the entire trip. His home is in Temple, and he made the run solely for the purpose of making a record. He found the roads in excellent condition.

ROBERT STUBBS, riding an Indian, won both events in the Lookout Mountain hill climb on the 22nd instant. The average grade is 10 per cent., though in places it approached 1 in 3. In the twin cylinder contest Stubbs, making the climb in 6.50 2-5, defeated John Green, on a Curtiss, by more than half a minute. In the single cylinder competition, Stubbs simply ran away from his competitors, his time being only 3 4-5 seconds slower than his figures in the twin cylinder event.

THIS explains itself: "The rumor in regard to my riding a Pierce motorcycle 75 miles per hour is only newspaper talk. There is no doubt, however, that the machine will travel very fast, faster than I want to go on two wheels."—E. C. Huselton, Butler, Pa.

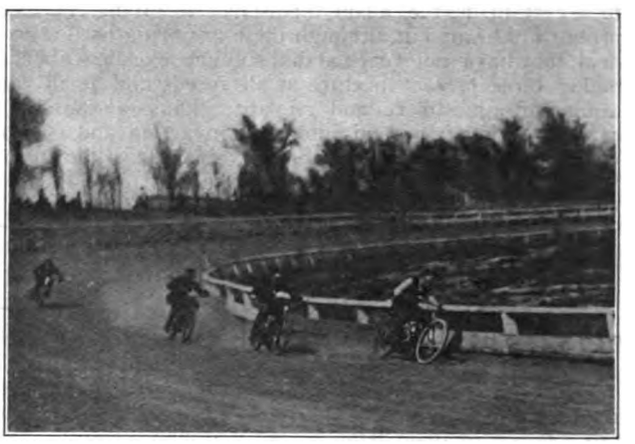
IT is probable that the motor carnival which will be conducted during the week beginning September 9, under the auspices of the Board of Trade of Lowell, Mass., will include one or two motorcycle events.

I. McDonald, and not J. E. Bates, as previously stated, is the new President of the Spokane, Wash., Motorcycle Club.

W H. WELLS, who has just returned from England to join the staff of the Hendee Manufacturing Company, is very desirous of seeing an international agreement arranged between the F. A. M. and A. C. U. so that our riders can go to England and compete with the cracks on Brooklands, and although he is quite English in many of his ideas, he is very much of the opinion that we would be able to show our cousins on the other side a few things about track racing.

There is no such thing as the amateur or professional motorist in England, automobilism not being recognized by the governing bodies of athletic sports; but the A. C. U. very wisely makes a rigid distinction between the private owner and the trade rider.

ST. LOUIS, MO.—The recent races on the one-half mile track at Priester's Park, under the auspices of St. Louis motorcyclists, were witnessed by about 1000 persons. The track was in fair condition, but was too short and the turns too sharp to allow of any records being made. The work of Frank Maynard on a three and one-half single cylinder Merkel created considerable excitement for the crowd. Maynard won every event, but he was disqualified because of the protest of other riders on stock wheels. Accordingly, Bahnsen was awarded first in the five-mile, Hazard in the two-mile and Wilson in the one-mile. All three rode Indians.



At Priester's Park—Bahnsen in the Lead.

PENDLETON, Ind., March 12.—Charles Bolinger, D. J. Pavey and Charles Cooper, all rural mail carriers, have purchased new motorcycles for use in carrying the mail. This is the second season for both Bolinger and Pavey, who find the machines highly satisfactory. They can cover their routes in one-half the time it takes with a horse.

A five-mile motorcycle race is to be one of the features of the programme of the annual festival of the Police Mutual Benevolent Association, to be given at City Park race track, New Orleans, on Sunday, June 7.

Bakersfield, Cal., riders have organized a club with a charter membership of forty.

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IMMEDIATE DELIVERY—ITS RESULTS

By ERNEST W. HOUSE

IT was early in the year 1907 that our firm decided to install a motorcycle delivery system, for making hurry calls for repair jobs on typewriters. We believed we would save time, be more up-to-date, and eventually get more business, for we could go after a machine and almost do the repair job and return it before we could get to it on foot. So we "took a shot" at it, putting in a small 2¼-h. machine, and had a machinist rig us up a small carrying stand on the rear wheel, clamping a baseboard to the same and fastening two large trunk straps to the bottom of it, and all we had to do when we wanted to "get there and back in a hurry" was to pedal a bit, drop compression, hold on and guide, and the job would soon be in our repair department. When the weather was bad we used a combination cloth and rubber cover which kept out rain, as well as dust and mud, and the scheme worked wonderfully from the very start. We patted ourselves on the back for having thought of such a scheme, as we were way ahead of any other house in our line in the city. The motorcycle soon won recognition, and when it stopped, the neat sign on each side, giving our business and purpose, etc., was read by scores of business men, who remembered it when in need of repairs, supplies or typewriters, and our business increased 100% that year. We have had people ask our "chauffeur" if it was not hard to balance a heavy typewriter on the back end, which clearly showed their ignorance, as you doubtless know it is no more of a task to ride with than without it. Our man allowed a friend in another line of business to ride the machine, with the result that he is now using one in his business every day. He states that he would not be without his motor for anything, as it is cheap considering the amount of time it saves and the number of miles it covers daily.

On one notable occasion, the prompt delivery of a typewriter, in advance of a competitor, who used a horse and buggy, resulted in a sale under most adverse conditions, and also a permanent customer. The surprise of the other fellow, who could not understand until he had seen our machine, how we arrived ahead of him, was really amusing.

That self-same little motorcycle is still in our service, doing from ten to thirty miles every day, and although it has been completely overhauled several times, it is just as speedy, reliable and 100% less expensive than any means of conveyance we have had the pleasure of trying, not excepting the bicycle, and we would feel just as much at home trying to do business without our 'phone as without our motorcycle "immediate delivery."

It would not be out of place to state right here that our total expense for repairs on our machine to date have amounted to the small sum of $49, which includes one pair new tires, three chains, two sets of batteries, renickeling, re-enameling and parts for the engine. We consider this extremely low, compared with the amount of service we get from it, as against a horse and buggy or bicycle, and the upkeep of same. This is food for thought for all business men who have an eye out for the saving of expense items as well as up-to-date methods, especially those whose parcels average small enough to carry on a motorcycle. Any young man with ordinary intelligence can immediately learn how to properly care for and operate a motorcycle.

A PLEA FOR GREATER SIMPLICITY—By H. A. MITCHELL

ALTHOUGH I have read with a great deal of interest and pleasure letters on the double brake question, to me it seems that while the extra brake might be of use occasionally, the multiplicity of parts, with their accompanying complications, would not compensate for the limited use to which such a brake may be put. It is said that the ordinary hub is not large enough to contain sufficient braking surface, and that as a consequence the great amount of heat generated is dissipated with difficulty. Then, too, some writers lay great stress upon the possible failure of the pedal chain, due to breaking or running off.

I have in mind several cases of hub brakes, which were perfectly satisfactory, and some in which a hub brake, or a band brake, or anything short of a brick wall for a stopper would be of no use. But let me cite one instance of a hub brake, of standard manufacture, which has been run for two seasons, covering at least 15,000 miles, and the brake discs have not worn more than .002 inches on each side, and are good for at least two seasons more.

Show me the outside brake, with its contracting band, or any other braking appliance in which the friction surfaces are not flushed with oil (as in the hub brakes), but exposed to the dust and grit as most band brakes are, that are good for four seasons without renewing. Some of my readers will say: "Well, I would be willing to renew a brake band or even an entire drum every season for the additional security which I feel." But what more is to be desired than enough braking power to skid the machine on dry asphalt, or to coast down a 30 per cent. grade at 15 m. p. h. without heating; a brake that does not stick, if given the attention the rest of the machine gets, and one that is neat and compact without a mess of rods and wires to operate it?

In regard to the area of friction surface, the hub brake to which the writer refers has about twenty square inches of braking surface, while the area of the largest band brake does not, to my knowledge, exceed this amount. Of course the brake shoe or band is applied to the drum at a greater distance from the center of the wheel than in the case of the hub brake, but for this very reason the brake must be applied carefully, as the friction surfaces, usually being dry, are very harsh in action.

As to the chain breaking, let me say that few new chains will break under the light duty of setting a hub brake, and a chain that is unfit for this is certainly unfit for starting the machine by pedaling. In regard to its running off, any rider who has neither the time nor inclination to keep his machine in such a condition that his chain will not run off, from lack of adjustment, had better ride a rocking horse or walk. In the case which the writer cites, the hub was given a tablespoonful dose of engine oil once a week, which was not enough to cause it to be thrown out and over the rider and machine.

It seems to me that everything possible should be done to lighten and simplify the machines rather than add to them, where not needed, simply for "talking points," or to make them resemble automobiles. A motorcycle is strictly a one man machine, and when used as such is a fine little conveyance. But when we try to put all of the appliances which belong to a thirty to sixty horsepower car on a three to eight horsepower machine, and then attempt to run such a contrivance on tires designed to carry three quarters of this load, it would seem that we were trying to attain the impossible.

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HOW TO MAKE MONEY FAST

By GEORGE W. SHERMAN, Sales Manager Aurora Automatic Machine Company

THIS is a question dreamed over by millions. There is but one answer. Nail or glue it to a board. You will then have made it good and fast. If you do the other thing our Government will cast you into prison for counterfeiting, as it does not permit you to make money.

If you wish to earn money fast and in a legitimate way, you must hustle, not so much with your hands as with your head. Put your think-box to work on some original scheme to attract the attention of the public to your merchandise, to your store and to yourself. In other words, advertise. For instance, when a hen lays an egg, it cackles and makes a noise. That is the hen's method of advertising. You or I would know nothing of the existence of this egg if the hen did not cackle. Nature has many ways of attracting the eye and the mind; so even nature has advertising methods. Nothing is so easy to advertise as the motorcycle. If the dealer will just stop working for one minute and think five, then loosen up with a little money, and some time, and advertise, it will pay. The merchant in these days who claims that he is throwing money away in advertising and that it doesn't pay is like the fisherman who baits his hook, casts it into the water and then falls asleep, waking up awondering why the fish don't get on the hook. The man who advertises and follows up inquiries is the man who gets the business. Don't think because you put a good-sized advertisement in the paper that every man in town is going to run hot-footed to your place of business. A man will rush to a minister to marry him, to a doctor to cure him and to an undertaker to bury his mother-in-law, and men conducting such business are about the only ones who do not advertise.

Here is an illustration of two men, advertising in the same town, both selling good motorcycles and each possessing but one machine. Of the first man I called upon I inquired how motorcycles were selling. His machine stood in the window all shiny and bright, but his reply was dark and gloomy. "Motorcycles! Well I am stung, all right. I have had the danged thing in the window for over six weeks, advertising it every day in the paper and running a big ad. in the Sunday papers, and I 'aint sold one yet." "Yes, they come in and get catalogs and talk their heads off, and me to sleep, but that doesn't pay. As soon as I get rid of that thing in the window, 'good-night' to me for motorcycles."

But the story with Dealer No. 2 is vastly different. When I asked of him how motorcycles were going, he told me he had fifteen orders in the factory and that it looked as though he would sell twice that number as soon as he could deliver. On making comparisons between the two dealers and their motorcycles, the latter had a good one but not quite as popular as the other fellow's, and I asked him how it was that he was selling motorcycles and his competitor was not. He told me laughingly that he figured it out that there was no use spending money in advertising unless you used some time and a few schemes in the proper manner. He said further:

"I advertise. I can't tell who read my ads. but I know that many more come into my store than when I did not advertise. I make it my business to demonstrate the machine, both in the store and on the street, showing how easy it is to control the machine in starting and stopping. I work mighty hard to make a sale there and then. Sometimes I am fortunate enough, but as a rule the 'prospect' wants to think it over. He then asks for a catalog, but he doesn't get it. I just tell that chap that I am expecting some in on the next train and if he will give me his address I will mail him one. Once I get his address I feel that the sale is half made. I don't mail the catalog, but I make this request for one an excuse to call at his home. This I do, mounted on a motorcycle. Ten chances to one he has been talking the matter over with his parents or wife and is much elated over the fact that I have brought the machine up to the house, so that they might have a chance to inspect it. As a rule my 'prospect' lives in a nice neighborhood, where the streets are quiet; so I invite him to get on and take a try. Either mother or wifey is looking out the window or doorway and he, always ready to be chesty in their presence, does not hesitate.

"This is just like injecting dream-dope into him; he's a goner. I have about ninety-six chances out of a hundred of selling the motorcycle. The chances that are against me would be lack of money, objection by wife, mother-in-law or parent, and so, while he is taking a little spin I get busy and sound the situation, do a tall lot of thinking and portray to the ladies of the house the life-giving qualities of the motorcycle to the rider, simplicity of mechanism, etc.; in fact, I feel that it is my duty to smooth the way for the prospective customer, who is riding the machine, so that all objections will be smoothed over and the way made easy for him to obtain his desires. Sometimes I pick up with a fakir or a tight wad, but I figure that the time spent on them doesn't harm any, because I feel that some one is looking on and gets the idea that if Mr. Tight Wad is going to buy a motorcycle, why not he? Sometimes the onlooker gets the fever so badly that he develops into those surprises. I mean those fellows who rush into the store on Friday and must have a machine delivered at once, so that it can be used Sunday. Yes, I follow up every prospect and stick to him until he either buys or sics the dog on me. You know, placing an advertisement in a newspaper or anywhere else is like sowing seed; if you want it to grow you must rake and hoe."

For instance, the son of a prominent man in your town desires a motorcycle. Perhaps he is a banker or a big merchant. The young man would get the machine in a minute if father only understood the situation and how simply the machine was operated, etc. If the wise dealer will manage to interview the father at his office, or, better still, to plan to catch him on the street, he will do some good advertising when, on meeting the gentleman, to talk to him as though he were hard of hearing. Then others will hear your line of conversation. Frame it up as though you were quite sure he was going to purchase the machine for the son. As a rule he will not come out flat-footed and say the young man can't have it. He might tell you so some other time or place, but you and he have been doing some advertising. Some one is listening or looking; the seed falls and is bound to take root. Other men in the town will fall in line.

Another effective way to introduce the motorcycle is to ride along your suburban and country roads at moderate speed. Keep your eye open for porches and verandas and occasionally act as though you had lost your way. Ride up the driveway and enquire your way to the next town, or even ask if your own brother lives there. Some one will surely become interested and ask you how far you have ridden, how you like your machine, where it can be bought, etc. Very often there is some one in the party who desires to make a trial of the machine. I have known many a dealer to do more than a good day's work in this manner.

Remember, advertising pays and every moment you spend riding on a motorcycle you are advertising. Advertising and following up your inquiries earns money fast. Ask the man who knows and the man who cares.

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General Editorial and Business Direction
F. P. PRIAL

J. LEO SAUER - - - - - - - - *Editor*
L. H. CORNISH - - - - - - *Advertising*

OUR May 15th issue will be kept by the maker, and the seller, and the rider as a sort of reference book on 1909 motorcycles and motorcycle accessories. In that issue will be published what might be called, to speak briefly, a Directory of the Motorcycle Trade. That is why it will be *kept*.

OUR June 1st issue will be *held* two or three days so that we can report Decoration Day Doings. If we published these in the June 15th issue they would be flavorless.

UNIMPEACHABLE Testimony; this issue, page twenty-six. Good stuff. Thanks to the men who did the work, agents, etc.; thanks also to those who wrote the praise. "Then scatter seeds of kindness, etc."

SOME advertisers are wedded to the fallacy that a paper should be edited to please *them*. That is a deadly idea. A paper is primarily edited to please its readers. *They* are the buyers. Unimpeachable Testimony is clear-cut evidence that M. I. *does* please its readers—thousands of them.

FIVE big motor accessories firms have gotten together and organized a $100,000 selling organization. It will save them great expense and make possible two profits, one on manufacturing and another on marketing. It's another step in modern centralization. Old timers (the writer is one) look askance on this constantly progressive consolidation. But it is logical, natural and well fits the times. Not to recognize the necessity, the inevitability of this movement is to invite trouble.

When the thing is all cleaned up, in a few decades from now, almost every man will be part of a big system or of systems within systems. Little men will play little parts, big men big parts. But over all, dealing only in yes and no, will hover and brood a limited class of men, impotent, bloodless, homeless, childless—suffocated by *useless* money.

AND now a map maker of Topeka, with men running all over Kansas, has bought a motorcycle for one of his canvassers. If it "makes good," he will mount his six men on motorbikes. Things of this sort will make the business strong, solid. In the automobile field, the commercial end will, in time, be *the* end. And so in the motorboat field. It is not the man who runs a motorboat for sheer pleasure who gives backbone to that business, but rather the thousands of men all over the world who follow the sea as a business, and who have found the powered craft necessary in their calling.

So, in due course of time, the commercial side of motorcycling—including the various types of cars, carriers, vans, etc.—that will give *body* to the business. We must have our De Rosiers, flashing through space, meteor fashion, to the applause of thousands; also the many thousands who ride for pleasure. But, in the finality, the doctor, phone man, letter carrier, canvasser and the light luggage people—they also will play a large part in motorcycle development.

IT seems quite probable that a sum of $400 will be donated to the Federation of American Motorcyclists. To boom the F. A. M. Meet held in New York last July a Meet Club was formed; and it collected much money, in fact it had the sum of $400 left over after the affair had become history. The president of the Meet Club, R. G. Betts, now reports to subscribers that this balance should be disposed of, and he suggests that it be contributed to the F. A. M., to constitute a special fund for legislative purposes. There is little doubt but that the majority if not all of the subscribers will agree that this should be done with the balance. A fund of this kind is very desirable at this moment; for the F. A. M. finances are none too strong, and, as there is legislative work looming up ahead, a special fund for offence and defence will come in handy.

FORTUNATELY, the Massachusetts Legislature has not taken seriously the recently introduced bill providing that all motor driven vehicles be fitted with "continuous noise" devices. The introduction of this measure, however, bears out the prediction made some time ago in these columns that, from criticizing motorcycles on the score of their alleged excessive noise, certain extremists would swing their emotional pendulums to the opposite end, and demand that riders be forced to make a greater racket. The general public may be depended upon, we believe, to gradually assume a position half way between these extremes. The American people are proverbially sportsmanlike, and while they have a weakness for fads, they are not prone to support persecution.

HAST ever heard of Owosso? Euphoniously named place this, in the good state of Michigan, whose denizens, however, are to be pitied. For thus one readeth in the columns of a nearby journal: "Owosso, Mich., April 14.—Fred Soper, aged eighteen, owns the only motorcycle in this city. The citizens of this city fear the motorcycle more than they do the sixty automobiles that are owned here. The women are scared to death and have sent many petitions to the common council asking that he be forbidden to ride it inside the city limits." Oh, you Soper! The fame of Peck's Bad Boy grows dim when compared with the dazzling effulgence of your awful daredeviltry.

THE history of the motorbicycle, from the legislative standpoint, was placid enough until the Supreme Court of Michigan, only a moon or so since, decided that motorcycles were automobiles, and, as such, must observe every section of the Michigan motorvehicle laws, even unto carrying lamps galore, frontward and rearward,

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a huge number of identification and whatnot. In regard to this decision it is sufficient to say that it is supremely silly. It's on a par with this logic: "An ass is an animal. So is a giraffe. Therefore a giraffe is an ass." The Michigan decision will fall of its own assininity *providing* the slightest pressure is put upon it. Is *anything* being done?

THE A. B. C. articles continue. They are for the novice. They started some time ago and have been read eagerly. They are written by a man who knows. Read them carefully; good stuff. The article on "Running Adjustments" will prove interesting, as will Dwight Patterson's article on gears. Our Queries Department continues to expand. Tell us your troubles. Perhaps we can help, and remember that the very thing which is a nightmare for you is also disturbing the peace of many others. So fetch them to us. We have a man who knows, a motor doctor, a healer.

AS the spring advances, more and more each day, boys of sixteen and seventeen, with husky, adolescent voices—and sometimes with high, razorless falsetto—come into this office and subscribe to the paper. They also buy Keller's book. Ever on the alert for a readable par, we invariably ask: "What machine do you ride, and where?" The frequentest answer is: "Oh, I don't ride yet; but I am goin' to buy a machine." A fine sign of the times this, a very good sign.

RECORDS are falling, at Los Angeles, like wet leaves in a wind-swept forest. Later, they will fall elsewhere. Are they bona fide, authentic? Like Cæsar's wife, are they above suspicion, the figures already claimed? Has the F. A. M. a plan to check all the factors in these record-breaking performances? Do the officials *swear,* on a suitable form, that the track measurement is all right, that the clocking is accurate, that the scoring is absolutely correct?

WHO knows the trade any better than George W. Sherman; who knows it longer? He came into motorcycling in its earliest day and has been maker, seller, traveller, writer and what not—making a mark in each phase. In this issue he talks to and about agents. He has called on thousands of agents and knows the breed. His stuff is not dreamy; it's close to the subject. It must make many of the dead (agents) awaken.

TABLOID REFLECTIONS

Throttle your prejudices, if you have any. Never mind how much hostility you may encounter. Fight for your rights, and fight to the best of your ability, but be patient and considerate. Follow this practice, and you cannot help winning out in the end.

The Concourse Club idea of interesting the gentler sex is a winner. Here's an example for other clubs throughout the country. The women folk made the bicycle what it was: they can do almost, if not quite as much, for the gas engine two-wheeler.

Even though clothes do not make the motorcyclist, there is no doubt that a little more attention to personal appearance will help to add materially to the popularity of the sport.

Now don't give the public any more opportunity to complain of your promiscuously using the cutout. Succumb to that temptation only when beyond the haunts of civilization, as it were.

LATEST NEWS BREVITIES

THE annual spring run of the New York Motorcycle Club will be held on Sunday, May 9th, 1909, and will, from present indications, be an overwhelming success. The run will be divided into two divisions, the first of which will leave Bedford Rest, Brooklyn, at 6 A. M., having a dinner stop at South Hampton, L. I., a distance of 100 miles, which is the turn for home. Survivors in first division are to receive handsome silver medals. The second division is to leave Bedford Rest, Brooklyn, at 9 A. M., with a dinner rest at Patchogue, L. I., a distance of 50 miles, which is the turn for home. The survivors of this division are to receive bronze medals. A. G. Chapple, captain of the club, advises that entries are coming in in fine shape and that he expects a delegation from Worcester, Brockton and Springfield, Mass., New Haven and Bridgeport, Conn., Philadelphia and Newark, and that with the Brooklyn and New York riders the total number of entries may be nearly 400.

THE F. A. M. has sent out, through President Ovington, notice to the general public, in connection with the muffler nuisance. Mr. Ovington sees no reason why a motorcyclist should ride through a residential district with his muffler open, making an unnecessary disturbance, without being arrested as a common nuisance and punished accordingly. If the police departments of the various towns and cities in the United States would follow this suggestion of the F. A. M., the only objectionable feature of the motorcycle would be quickly eliminated.

EARLE L. OVINGTON, President of the F. A. M., riding an F. N., Goerke and Chapple, riding Indians, and Stanley T. Kellogg, on an Excelsior, last Sunday afternoon took a trip over the Motor Park Roadway in Long Island for the purpose of reporting back to the F. A. M. the advisability of using this roadway for a 150-mile race; they came back satisfied. Kellogg, on his 3½-h. Excelsior, was timed for 54 miles an hour.

THE managers of the Clifton track have made a contract with Charles Turville to provide pace for the bicycle racing and motorcycle exhibition. For this work Turville has secured four of the latest Indian pacemaking machines.

COMING EVENTS

May 9—New York Club's Runs to Southampton and Patchogue.
May 22—Philadelphia Race Meet.
May 29—Harlem Club's Run.
May 29—Dayton Club Meet.
May 30—Los Angeles Club Trial.
May 30—Fisher Trophy Run, Chicago.
May 30—Beverly, Mass., Club Hill Climb.
May 30—Proposed Opening of Chicago Track.
May 30-31—New Jersey Club's Run.
May 30—Fort George Hill Climb.
May 30—Chicago Club's Gymkhana.
May 31—Wilkes-Barre Hill Climb.
June 3—New York Club's Second Trial.
June 8—Danville, Ill., Hill Climb.
July 5-10—English Reliability Trials.

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WITH THE CLUBS

NEWARK, N. J.—As already announced in this paper, the second annual endurance run under the auspices of the New Jersey Motorcycle Club will take place May 30 and 31. The run will be open to amateurs as defined by the rules of the F. A. M., and gold medals will be awarded to all perfect scores, or to the highest three scores. Entries close Tuesday, May 17; entry fee, $2.50; post entry fee, $3.50.

Entrants from outside of New Jersey not licensed in the state may obtain 1909 licenses upon sending $1.00 extra, or $3.50 in all, with entry. Upon receipt of such amount the secretary will forward state application blanks to be filled out and returned by entrant. The secretary will then obtain license and forward to entrant. All such applications must be mailed prior to May 17. This will enable non-residents to ride in New Jersey for the entire year 1909 for $1.00 instead of $2.00.

As provided for in the F. A. M. Competition Rules, no person will be eligible to compete unless he has been registered by the competition committee. To enrolled members in good standing, the chairman of the F. A. M. will, on application, issue without cost a numbered registration certificate. All applications from non-members must be accompanied by a fee of 25 cents. No motorcycle having an engine exceeding 61 cubic inches (1,000 cubic centimeters) piston displacement will be permitted, without special permission of a member of the competition committee.

Each competitor will be credited with 1,000 points at the start. Penalties will be deducted therefrom. For failure to adhere to schedule the following penalties will be imposed: One (1) point for each minute late at any control; two (2) points for each minute in advance of schedule. Thirty (30) minutes in advance will entail immediate disqualification and elimination from the contest. At Camden check. All machines will be locked up and access will not be given to them to contestants till 5.30 A. M., May 31.

There will be two hill-climbing tests, one at Schooley's Mountain and one at Cushmall Hill. At German Valley, immediately at foot of Schooley's Mountain, will be a regular checking station, where time will be checked. At Cushmall Hill, near Singac, riders will be required to register, but no time will be taken.

When nearing foot of the grade selected for the hill-climbing tests, competitors must dismount and, in the order of their arrival, undergo the hill-climbing tests by making the ascent of the hills without regard to time, but under the observation of officials stationed there. But one trial will be permitted, save in the event that a competitor may be blocked by traffic on the road. Penalties will be imposed at each hill as follows: Single-cylinder machines, twenty-five (25) points for dismounting; ten (10) points for failure to make the ascent without pedaling, which shall be deemed to be more than three revolutions of the cranks at any successive periods. Multi-cylinder machines, fifty (50) points for dismounting; twenty-five (25) points for pedaling.

Riders must mount each hill in order of arrival at the foot and under direction of official in charge. Crowding or going out of turn or interference with officials will not be permitted. Failure to comply with above rules will mean immediate disqualification. Further information if desired may be obtained upon application to Secretary Thayer McLaren, 47 William Street, Newark, N. J.

Earle L. Ovington, president of the F. A. M., recently came to Newark to address the local club. After giving them a little talk on the F. A. M., he requested all those present, who were F. A. M. members to stand. All but 10 men got on their feet. After emphasizing what the F. A. M. had done and what it was doing and hoped to do, and stating that he would be glad to receive the applications to the F. A. M. from any of those present who were not already members, Mr. Ovington received no less than six applications out of the ten. In other words, when the meeting broke up, every man but four present was either a F. A. M. member or had sent in his application. That's the way they do things in Newark. If every other motorcycle club in the United States would follow this example, it would not be long before the F. A. M. would have 10,000 members. And what a real force it would be with a membership of 10,000!

LAFAYETTE, Ind.—Local riders have organized a club and elected the following officers: President, H. C. Roth; vice president, Arthur Bauer; secretary, W. M. Apple; treasurer, R. L. Kenny; captain, A. E. Hoffman; first lieutenant, Bert Loeb; second lieutenant, Harry Bauer. The club has applied for membership in the F. A. M. There are about fifty riders here, of whom twenty-five have joined the club.

CHICAGO, Ill.—Almost every make of motorcycle was represented in the Chicago Club run to Half Day, Ill., on Sunday, April 18, and the riders were all out for a jolly good time, knowing that a chicken dinner was awaiting them at their destination. The dinner was barely over when it began to pour, despite which fact all reached Chicago in safety, although one of the riders, in dodging a mud-hole, went into a creek, and had to be fished out.

The Massachusetts Motor Club, at Worcester, April 19th.

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WORCESTER, Mass.—The Worcester Motorcycle Club held its annual meeting recently in the new club-house, at Lake Quinsigamond, and elected the following officers: President, Fred A. Brooks; vice-president, Chas F. Merrill; secretary, Chas. E. Hitchcock; treasurer, Herschel F. Davis; captain, L. J. Vandreuil; first lieutenant, Wm. H. Tannebring; second lieutenant, Albert P. Knight; standard bearer, Gerald E. Hoyle; directors, James M. Amsden, Elmer R. Creamer and Caspar M. Brown, in conjunction with the house officers.

A letter was read from Lincoln Holland, the retiring president, now in Los Angeles, expressing his best wishes for the success of the club during the coming season, and saying that while entering an endurance run from Los Angeles to San Diego on May 30 and 31 as a member of the Los Angeles Club, he would enter also as a member of the Worcester Club.

A communication was presented from the Providence Motorcycle Club, relating to participation in an endurance competition for club teams, and consideration of inter-club relations, New England meets, and vacation tours, the Providence, Springfield, Boston and Worcester clubs being suggested as participants. A committee of three, Messrs. L. J. Vandreuil (captain), Ira C. Coombs and A. V. Amsden, were appointed to confer with like delegations from the other clubs, and discuss the subjects presented for consideration, with power to act as representatives of the Worcester Motorcycle Club.

The official season of the club opened April 19, when the competition for the club cup began. The member having the largest number of certificates of attendance and perfect performances on called runs becomes holder of the Club Cup, and it becomes his property if won two consecutive seasons. It is now held by Mr. L. J. Vandreuil.

TAUNTON, Mass.—Thirty-two Providence motorcyclists participated in the motorcycle run to this place Sunday, April 18th, and had a very enjoyable time. The riders were met outside Taunton by a party of Taunton riders, who had lunch prepared. After lunch the riders journeyed to East Taunton to view the herring run and because of the fine weather they were not disappointed, as the herring were coming up the fishway in large numbers.

After the Providence men had left Taunton B. A. Swenson, who is Secretary of the Eastern District of the Federation of American Motorcyclists, stopped over in Taunton and the motorcyclists there were formally organized as the Taunton Motorcycle Club, with 16 charter members. The Taunton club will be affiliated with the Federation of American Motorcyclists and the initiation fee will include membership in both organizations. The following are the officers of the Taunton club: Joseph Boiros, president; Felix P. Beauvois, vice president; Alfred Beauvois, secretary; Walter R. Moxon, treasurer; Charles J. Gonsalves, captain; Wenceslos Rabillard, first lieutenant; Numezeo Gunha, second lieutenant.

MINNEAPOLIS, MINN.—At a recent meeting of the local club, a committee was appointed to find a location, and prepare sketches and receive estimates for a club-house, to be built after the bungalow style. It is expected that as soon as the club incorporates, which will be within the next ten days, the erection of a club-house will start. The building will be put up in such manner that it can be added to from time to time, so that eventually the club will have large and commodious quarters, consisting of a general assembly room, dining-room and kitchen, pool and billiard room, library and smoking room, quarters for the storage of light repairs for motorcycles, and a fine basement equipped for a complete and up-to-date gymnasium.

There will be built between Lyndale avenue and Bryn Mawr within the next 60 days a saucer track and grandstand seats for the holding of motorcycle and bicycle races.

BROOKLYN, N. Y.—The first spring century run of the Linden Club was held last Sunday over the Long Island roads. The course was along the north shore to Oyster Bay to Hicksville, along the Merrick Road and back to Brooklyn. Over fifty riders took part in the run, and practically all finished on time. The riders had a hard time when they got beyond Oyster Bay, as they had a long hill of soft sand to climb. This is the first run that has been attempted over the north shore road. Mr. and Mrs. George Breitfeld rode a tandem in the run and finished on time among the first group. The run was in charge of John Behn, captain of the Club, who took out the first division, that left at 8.30. E. Bennett and W. Savery took out the second division about one hour later.

THE annual spring run of the Harlem Motorcycle Club will take place May 29, 30 and 31. The entrance fee, payable with entry, will be $2.00. The schedule will be as follows: First day, from the club-house to South Ferry, St. George, Perth Amboy, South Amboy, Lower Matawan, Freehold and Farmingdale, a distance of 55 miles. Second day, Farmingdale, Lakewood, Tom's River, Watertown, Tuckertown, Pleasantville and Atlantic City, 78 miles. Third day, Atlantic City, Watertown, Farmingdale, Perth Amboy and home, 133 miles. The run will be in charge of L. H. Guterman, chairman; W. L. Coursen and F. Lewin. Handsome gold medals will be awarded for perfect scores and silver medals to survivors who finish with a score of not less than 850 points.

WASHINGTON, D. C.—On Friday evening, April 23, the National Capital Motorcycle Club surprised one of its members. Notices had been sent to the effect that the regular weekly meeting, instead of being held in the Eagles' Club, as usual, would be at the residence of Treasurer M. H. Hopwood, 1101 Florida Avenue, N. E. After all the business had been transacted President J. F. McCarter announced that a program had been arranged in honor of H. F. Buhrig, who is about to sail for Europe. Vocal and instrumental selections were rendered by Miss Marie Woolnough, Miss Daisy Hopwood and Mr. Jas. Dreis, and by several members of the club, among them its president. A banquet followed.

JOLIET, Ill.—The Joliet Motorcycle Club has sprung into being with twenty-five charter members and hopes of increasing the list to twice that number before the close of the season. Headquarters have been rented at Jefferson and Herkimer streets. The officials chosen by the new organization are as follows: Frank Patterson, president; J. Herbert Siddon, vice-president; Newcomb Hill, treasurer; C. Alfred Siddon, secretary, and Frank E. Buck, trustee. Aurora and Chicago riders will visit Joliet as the guests of the local club several times this summer, and these trips will be returned by the Joliet organization.

INDIANAPOLIS, Ind.—The local club has decided to ask its central officers to postpone the F. A. M. racing meet until the motor speedway is completed. The decision to ask for a delay was urged by Frank S. Wescott, who addressed the club. He said that the speedway would be in excellent condition by the latter part of July.

M. L. Cornish, of the staff of MOTORCYCLE ILLUSTRATED, addressed the club, complimenting the members on their up-to-date methods of organization and their enterprise. He urged a united effort to make the meet a success.

CINCINNATI, O.—The Queen City Motorcycle Club held two runs recently. On Easter Sunday a trip was made to Venice, forty miles away. On the eighteenth, Lebanon was made the point of destination. The following riders participated, the majority of them in both journeys: President Charles Laile, Jr., Captain Harry Wessel, Lieutenant Sherley E. Meyers, Herman Neidersmith, E. H. Adams, Herman Wessel, Harry Beach, Fred Peacock, Emil Berger, Fred Tappe, George Monck, Evan Dearking, Howard Humphries.

HACKENSACK, N. J.—Another affiliation of the F. A M. is the Hackensack Motorcycle Club, its officers being: H. B. Cummings, President; W. Terhune, Vice President; W. R. Schoonmaker, Secretary and Treasurer; A. J. Sicard, Captain. At a meeting held on the 20th it was decided to hold the first pleasure run to Lake Hopatcong on May 2d. Endurance runs and racing events will be conducted during the season.

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QUESTIONS & ANSWERS

WANTS ENGLISH ACCESSORIES

WILL you kindly inform me if any firms in this country handle the English Brown and Barlow carbureter, the F. R. S. motorcycle headlight, and adjustable belt fasteners to use with adjustable V belt pulleys? I have an English machine (Rex) and want to fit a handle-bar controlled carbureter. In your issue of April 1st I saw your instructions as to how "to construct a muffler." Would it make any difference, in a 3½-h. single, to make the muffler slightly shorter and have the exhaust pipe entering at one end? J. C. K. STUART.

Duluth, Minn.

We do not know of any agents who handle this carbureter, but no doubt E. L. Ovington, of 2232 Broadway, New York City, will take up the business for you. The F. R. S. head lamp is made by S. Hall & Sons, Ltd., 12 Clyde street, Edinburgh, Scotland, and Brown & Barlow, Ltd., Loveday street, Birmingham, England. The Rex people are now fitting handlebar control, but they use the B. & B. carbureter on their best models.

Now as to your muffler question, you can make this muffler about 9 by 4 inches for a 3½-h. Lead the exhaust pipe right through and block the end, as otherwise it will make more noise. Fix the four tubes to one end plate, cutting the corresponding holes in the other plate, also one for the central exhaust pipe. Slide this over exhaust pipe and then put an outer shell to this. Now fix on end plate over exhaust pipe, secure with an end-cap which has internal thread. Make your outlet pipes a bit smaller on a 3½-h. I am using a large muffler on a car on these lines with ¾-inch pipes only. Fit only three outlet pipes for your engine. See answer to other questions.

THE TWO CYLINDER OPPOSED MOTOR

WILL you please state the objections, if any, to using a two-cylinder opposed motor, placed longitudinally in the frame? I have been told that the opposed engine is better balanced than the V. The frame is to be a specially built one, to accommodate the extra engine length.

"PUZZLED ENGINEER."

Cincinnati, O.

There are really no objections, though critics will tell you that this will produce a tendency in the rear cylinder to overheat, and also that horizontal engines wear oval internally. But these can be met with practical proof to the contrary by users of this type of engine. A ninety-degree twin cylinder gives well balanced results, but the opposed type, as fitted in the foreign "Douglas" and "Fairy," is claimed to be vibrationless. At home we have this in air-cooled car construction; in fact, Mr. Metz, the former designer of the M. M., uses an engine of this type with the addition of a ball bearing offset cylinder, thus making for extreme efficiency. There is also a water-cooled motorcycle made with opposed cylinders which has done wonderfully well in hill climbing. The frame to take this engine should be of trussed construction in the seat mast tube, so that the center of gravity can be brought low.

HILL CLIMBING POSSIBILITIES COMPARED

CAN you give me the comparative speeds of a 3-h. single-cylinder and a 6-h. twin-cylinder up a 10 per cent. grade? Gear is five to one, and weight of rider, one hundred and thirty pounds.

MacDOWNING.

Vicksburg, Miss.

As George Bernard Shaw remarks, "You can never tell!" As a matter of fact, it all depends on the driver. Some riders will get an astonishing rate of speed out of a single-cylinder, and sometimes equal the time of a twin up a ten per cent. grade. We should, however, put it thus: You gear both machines at five to one, when the twin-cylinder could easily take 4 to 1; therefore the whole result depends entirely upon the maximum number of revolutions per minute of which each machine is respectively capable. Then the problem is this: "Under a given load will a 3-h. single-cylinder reach the same number of r. p. m. as a 6-h. twin?" Some machines will do so, in fact some single-cylinders run at over 3,500 r. p. m. and would climb a 10 per cent. grade at about 2,500 with a good start. Few twin-cylinders have such a maximum as this; indeed, a 3,000 r. p. m. twin is hard to find outside the racing type. Roughly speaking, in really efficient machines the twin would only be a few seconds faster in half a mile of ten per cent. gradient but, practically speaking, a 6-h. twin on a longer grade will be about 20 per cent. faster than the average 3-h. single-cylinder—mark you, we say, average.

THROTTLE SHOULD BE OPENED GRADUALLY

I HAVE a 2¾-h. Indian which is in fine running shape, with plenty of power, but when I throw left grip or throttle on it comes nearly to a stop before it takes hold. How can I remedy this? CHARLES TOOMEY.

Center Falls, N. Y.

It is unwise, especially on a machine with an automatic carbureter, to open the throttle suddenly, as the carbureter takes a few seconds to adjust itself to new conditions, that is, to take in a proportionate volume of air to meet the extra gas. Thus, you will see that the throttle should be opened gradually. An airlock in the gasoline pipe sometimes gives similar symptoms, and with some carbureters an experiment with different adaptors and jets often brings surprising results. See that the tank is not air-locked and, if opening the throttle gradually does not do the trick, see that the gasoline reaches within one thirty-second of the tip of the jet. If then the needle valve mechanism is O. K. the machine should not miss fire in any way, when the throttle is gradually opened. The three essential things to watch for in the adjustment of a carbureter are that the jet should be of the right size, that the gasoline level is correct in relation to the tip of the jet, and that the air supply is in correct proportion.

TO STOP A LEAKAGE OF OIL

WHAT is the best way to stop oil from leaking out of the base of a 2¼-h. Thor engine, in which the clamps have worn a hole? Can you solder aluminum? If so, what kind of solder must I use?

T. E. SPOTSWOOD, JR.

Mobile, Ala.

Fit some thick felt washers under the bolts, clean the crank case thoroughly and apply some fish glue to the joint. Brown paper, soaked in paraffin wax, makes a good joint also. You can procure aluminum solder from E. F. Lester, Fayetteville, N. Y., or Solderene Coy, 53 State street, Boston, Mass. The best plan would be to take the job to a foundry.

MAKERS OF MOTORCYCLE SIRENS

WILL you please give me the addresses of several makers of sirens for motorcycle use?

J. SCHMIDT.

Tracy, Cal.

The Sireno Company, 39 Cortlandt Street, New York; Motorcycle Equip. Supply Co., Hammondsport, N. Y.

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EXCESSIVE SPEED CLAIMS

I WISH to enter a protest against overstating the speed of standard motorcycles. It is not uncommon to read in a maker's catalogue that his single-cylinder machine will go from five to sixty miles per hour. The maker fails to state that he means five miles an hour up hill and sixty down. To my positive knowledge, there is not a standard single-cylinder motorcycle today which, in the hands of the ordinary rider, will make any such speed as this. Under ideal conditions, and in the hands of an expert, a single-cylinder machine has made considerably better than a mile a minute. But I am speaking now of standard machines, operated under ordinary conditions.

As a dealer who comes in contact with many motorcycle purchasers, I state most emphatically that this overestimation of the speed of standard machines is doing a great deal of harm to the motorcycle industry. Customers come in and ask the speed of a machine, and when you tell them that a single-cylinder motorcycle will make from forty-five to fifty miles per hour, they are disappointed and talk mile a minute. They may even produce some recent catalogue to prove that a single-cylinder machine is able to make this speed. Of course, it is only the novice who brings up a question of this kind, but there is no reason why the embryo motorcyclist should be deceived with regard to the speed of his machine. As a matter of fact, a mile a minute on anything but the very best of roads is not only undesirable, but few motorcyclists could sit in the saddle with the machine going at that rate.

I think that manufacturers should stick to the truth in their catalogues with regard to the speed of their machines as in other details. They are making a misleading statement when they give the maximum speed of their machine after it has been carefully tuned up by an expert, the compression raised, light racing tires fitted and the machine itself operated on a smooth track. The speed given, in my opinion, should be that which the average man can obtain under average conditions. I believe it is doing the industry a great deal of harm to over-estimate and exaggerate the speed of the standard touring motorcycle. Very truly yours,

New York. EARLE L. OVINGTON.

FUTURE OF THE DELIVERY VAN

IF the average merchant awakens to the great advantages of the motorcycle delivery system the seemingly popular but expensive automobile delivery will take a slump. The fact that the automobile delivery is an enormous improvement over the horse-driven vehicles on account of its speed and ability to cover a wide zone does not spell success, for the conditions and cost of maintenance very often exceed the value of the work given; of course, there is a certain amount of advertising in having automobile delivery, but this is not so manifest as it was when an automobile delivery was an uncommon sight.

There seems, in my mind, a breach to be filled between the efficient but expensive automobile and the slow, inefficient and limited horse-drawn vehicle, and the motorcycle delivery van will undoubtedly fill this opening admirably. It would be unnecessary to point out to the experienced motorcyclist the advantages of this type of delivery, but for the benefit of the merchant I might add that motorcycle delivery work is the most economic for at least a dozen reasons. The cost of storage is practically nothing in comparison with that of any other vehicle, the cost of gasoline is at the minimum, in fact the general upkeep is at the lowest possible level, even including repairs or replacements of worn parts which, in a first class motorcycle, are practically nil.

I do not hesitate to predict that the motorcycle delivery van will become more and more popular, much to the advantage of tradesmen who decide to use them. Yours very truly, A. H. BARTSCH.

New York.

IF "B. B.," of Columbus, O., will send in his name, we shall be pleased to correspond with him.—Ed.

THAT MUFFLER PROBLEM AGAIN

IN your April 1st issue you answer the question of A. M. Van Keulen as to how to make an efficient muffler. Can you give me a rough sketch of this muffler showing the way in which it is constructed. I cannot understand your description. If I made this muffler about nine inches long and four inches in diameter, would it be all right for a single-cylinder 3½-h. engine?

L. GARRETT HANBY.

San Luis Obispo, Cal.

We regret very much that we have no space here for a sketch. We hope to embody one in an article later. Nine by four would do for a 3½-h. single, and for a twin, about 12 x 4. See below.

IT MIGHT INJURE THE COIL

I WOULD like to know if it would injure my coil if I used four cells connected in multiple instead of three connected in series.

J. G. SCIDMORE.

Elwood, Ind.

Yes, it might injure your coil, as the coil may not be of sufficient resistance to stand it; therefore why risk it? It will only mean a slight increase in mileage and would probably give trouble and burn up the contacts. Coils are very delicate in construction and will rarely bear higher voltage without injury.

TO FIT ENGINE TO BICYCLE

R. D. JENKINS, Shelton, S. C.—We believe that the Herring-Curtiss Manufacturing Company, Hammondsport, N. Y., may be able to meet your needs or, if you care to import something, the French set by H. A. Dufaux, Ltd., of 65 Holborn Viaduct, London, is also something good. But you must keep in mind the fact that the bicycle will have to be fitted with girder forks and the rear part of frame altered so as to take a belt drive. This will all mean expense, and therefore we advise you to sell the old "jigger" and to buy either a second hand motorcycle or an up-to-date new one.

WHEN PULLEY BUSHING IS WORN

THE pulley bushing on my engine is worn a little and leaks oil. Could I use some kind of a washer or must I get new bushings? BERT WILKES.

Chicago, Ill.

You can fit a felt washer, which can be obtained from any automobile accessory manufacturer. Get a thick one, and renew it from time to time until you get the engine rebushed. This will mitigate the evil to some extent, but will not entirely stop it. Also see that the oil-release valve is working all right.

MAGNETO CONSTRUCTION DETAILS

CAN you send me detailed diagrams of the construction of the Bosch high tension magneto, or any other good high tension magneto for single-cylinder motorcycle use?

W. D. KELLOGG.

Atlanta, Ga.

Sorry that we cannot give diagrams on this page. You will find all you want, however, in the catalogues of the Bosch, Herz and Eisemann companies respectively.

WHEN RIDING DOWN HILL

IN riding down hill, is it best to turn off spark and gas completely, or to advance spark to the limit, with gas nearly off? I have heard that if you shut off the spark, carbon is liable to be deposited. Is this true?

Canandaigua, N. Y. LOUIS F. BRADBURN.

You will find answers to your questions on page 6 of this issue.

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A SUBSTITUTE FOR GEAR-RATING

By DWIGHT PATTERSON, Chairman F. A. M. Legal Committee

INASMUCH as the motorcycle is only another step—though indeed a large one—in the advances that the bicycle has made, it is natural to suppose that many of the terms applied to the bicycle should be used in relation to the motorcycle. One of these terms is the "gear."

The first bicycle of practical value was known as an ordinary, which had a large wheel in front and a small one behind, the rider being seated over the larger wheel, which he rotated directly by means of pedals and cranks. It was soon seen, however, that this type of machine was very dangerous, owing to the fact that the rider was easily precipitated over the bars when the front wheel struck some obstruction; to prevent this, a machine known as a safety was designed. This was practically identical with our modern bicycle, the power being applied at a crank shaft midway between two wheels, which were of the same size, and transmitted to the rear wheel by means of a chain, and it was in reference to the ratio of the revolutions between the pedal-driven cranks and rear wheel that the word "gear" was first applied to the bicycle, it being found necessary, owing to the small size of the safety's wheels, to so "gear" the machine that the rear wheel would be caused to revolve faster than the crank shaft, in a ratio to suit the rider's particular fancy. But bear in mind that, although "gear" was used by our old friends, the bicyclists, when speaking of the ratio of the revolutions between the cranks and rear wheel, nevertheless, they did not let the matter rest with a comparison merely of such revolutions, but they used the old ordinary as a means of comparison,—in other words, if the ratio was such that the safety traveled as far in one revolution of the cranks as an ordinary with a 54-inch wheel in one revolution, then the same was "geared" to 54. That is to say, there is a definite ratio between the pedal revolution and the ground covered.

Now, then, let us look at the "gear" as applied to the motorcycle. Here "gear" simply means—the ratio between the motor revolutions and those of the rear wheel, and this, too, irrespective of the diameter of the rear wheel. Take two motorcycles of a given "gear" of 5-1, the one having the popular 28-inch wheels, and the other, one of those foreign creations with wheels of 24 inches; the former will travel some 2.5 inches further per engine revolution than the other and the latter can negotiate hills the former cannot. Obviously, taking into consideration the loss of power and gain in motion on the one hand, and vice versa on the other, the term "gear" as now applied to the motorcycle affords no accurate means of comparison. To tack on the statement that one of these machines has 28-inch and the other 24-inch wheels does not simplify matters, as a mathematical calculation must be resorted to to secure a comparison. It is just as indefinite as the discarded rating of motorcycles known as "horse-power," and it should go the way of "horse-power."

However, it is bad policy to knock an established custom of doing a thing and to advocate the doing away with the same, unless something better is offered in its place. Then again, it is better to follow an old custom as far as possible, rather than to endeavor to introduce some radical change. Bearing this in mind, the writer would rate a motorcycle according to the distance traveled per engine revolution, and he would say that a motorcycle has a "lateral velocity" or just "velocity" of so and so many inches. In fact, what is known as the "gear" and the "velocity" are so closely connected that each depends upon the other for explanation. For example, if we would find the "velocity" per engine revolution we have but to divide the circumference of the rear wheel by the "gear." Thus it will be seen that what we now call the "gear" differs little from the "velocity," so far as motion is concerned, it being understood that the former is measured by the part of a revolution made by the rear wheel per engine revolution (i. e., the ratio of the two), and the latter by the distance a point on the periphery of this rear wheel will travel per engine revolution; but, mind you, the "velocity" is given in inches and fractions of an inch, while the "gear" is given as the number of revolutions the motor must take to turn a rear wheel, but it does not take into consideration the size of this wheel.

Assuming that the distinction between what is known as the "gear" and "velocity" is now clear to the reader, let us examine what advantages one may have over the other. In the first place, as has already appeared, the "velocity" offers an immediate and accurate means of comparison, while the "gear" offers none whatever unless the size of wheels are given, and then only after a mathematical calculation. In the second place, to obtain the "velocity" of any machine is nothing more than simple arithmetic, no formula being needed; you have but to divide the circumference of the rear wheel in inches (i. e., the diameter multiplied by 3.14159) by our old friend "gear;" for example, 28 by 3.14159÷5=17.49 inches "velocity." In the third place, it will prevent confusion with the pedal "gearing" of the bicycle, which holds the prior right to the use of the term. In the fourth place, it prevents any misrepresentation of hill-climbing power. In the fifth place, it is easier to explain to the prospective customer that a machine travels forward so and so many inches per engine revolution (i. e., such and such a "velocity") rather than to explain that a machine is "geared" 5¾ to 1 or 4¾ to 1, etc. In fact, what is known as "gearing" is so complicated a thing to the new rider that the shelving of the same for something simpler would remove one more complexity of the motor bike. In the sixth place, 16.5 inches or 17 inches "velocity," for instance, is much more easily remembered than 5⅞ to 1 or 4⅞ to 1 "gear," which taxes even the memory of a bookmaker, accustomed as he is to doing business without notes. And lastly, in advertising the "velocity" rating we would set another example for our automobile friends, who, with their 26-inch to 36-inch wheels, are more in need of a change of rating than we are. In fact, the only real objection to the proposed change is that it would be difficult to familiarize some classes of repair men with the new system, but if the rank and file came clearly to understand what "gearing" meant with the first safety bicycles when they appeared, there is no reason why matters should be different in this case. Still, the writer knows of men even now who have a chart handy which they consult to ascertain the "gear" of a bicycle.

As in the case of the shelving of the uncertain quantity "horsepower," there will be many who will knock this suggested change. The writer fully expects this. However, there will be two machines rated as he advocates, for he intends to practise what he preaches and will designate his erstwhile 4½ to 1 "gear" single and his erstwhile double 3 to 1 "gear" as having respectively 18.10 inches and 20.32 inches "velocity."

TWO motorcycle events have been arranged for the hill-climbing contest which is to be conducted by the Wilkes-Barre Automobile Club on Giant's Despair, Wilkes-Barre Mountain, May 31. The events are Nos. 13 and 14 and will follow the regular auto races. The events will be: Event No. 13—Open to amateur riders using machines not exceeding 30½ cubic inches piston displacement. Event No. 14—Open to amateur riders using machines not exceeding 61 cubic inches piston displacement. Entries will close with George F. Lee, chairman contest committee, 902 Coal Exchange, Wilkes-Barre, Pa., Wednesday, May 26th. Entry fee, $2 for each event.

THE appropriation of $3,000,000 by the Pennsylvania State Legislature for a great highway from Philadelphia to the Ohio State line, has been made, and now the fight is on in earnest to determine the course of the new road. Several routes have been proposed and the various cities and towns along them are now preparing to present their claims for recognition.

In the bill appropriating money for the highway no route was designated. All that is assured is that Pittsburg will be one of the principal cities in the west through which the highway will pass, and that the first section of the road will be from Philadelphia to Harrisburg.

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MAKERS AND SELLERS

NEW BIG SELLING COMPANY

ANNOUNCEMENT has been made of a selling plan involving five concerns, to be managed by men who have been successful in the marketing of accessories during the past few years. The new corporation, with a capital of $100,000, will be known as the United Manufacturers. It will act as a co operative selling and distributing organization, handling the business of the Jones Speedometer, Inc., Weed Chain Tire Grip Company, C. A. Mezger, Inc., Connecticut Telephone and Electric Company and New York and New Jersey Lubricants Company. Jones speedometers, Weed chains, Soot proof spark plugs, Automatic windshields, Connecticut coils and Non-fluid oils are the products that will be handled.

The organization will be owned and personally managed by the individual manufacturers who compose it. Plans at present include New York headquarters at Broadway and Seventy-sixth street, and branches in Detroit, Boston, Chicago and Cleveland, with other branches to be opened later. The president of the new organization will be W. B. Tasher, of the Weed Chain Tire Grip Company, while the other officers are R. M. Owen, of C. A. Mezger, Inc., vice-president; Robert H. Montgomery, New York, secretary; George L. Holmes, of Jones Speedometer, Inc., treasurer.

As might be expected, the objects of the new organization are to concentrate the selling efforts of the interested companies and to reduce the expense of selling and distributing. On account of the branch house system, it will bring the selling company in closer touch with its customers. The new corporation will do no retail business, concerning itself solely with the jobber and dealer.

BROCKTON, Mass.—The American Motor Company, manufacturers of the M. M. machines, is now employing both a day and a night crew. The company is making quick deliveries on everything except the magneto twin-cylinder machine, and with the night force on hopes to catch up on these soon. There has recently been purchased nine acres of land adjoining the factory, where, within a short time, additions to the plant will be made.

The company has for nearly two years had a branch in Boston, and during the past winter branches have been established in Buffalo, New York, Philadelphia, Chicago, Denver and Los Angeles.

HERE WITH is a cut showing the new tandem attachment just gotten out by the Hornecker Motor Manufacturing Company, Geneseo, Ill. The principle of the attachment is that it is suspended on springs the same as the Thomas front spring fork which makes it ride very comfortable. It can be attached to any motorcycle in about ten minutes. It is the only tandem attachment on the market constructed in springs. It is controlled by patent secured by the Hornecker people.

ACTIVE PHILADELPHIA AGENTS

PHILADELPHIA is steadily making pace as a good market for motorcycles. In the old bicycle days no city surpassed Philadelphia in cycling interest, due to the layout of the city itself, the splendid avenues for outlet and inlet and, particularly, to the remarkably fine stretches of country roads easily reachable from the city. Judging from the signs of the times motorcycling is certainly becoming just as popular in the Quaker City as was the bicycle in its palmiest days. Already a number of active and enthusiastic agents are located there. A summary of them might interest the manufacturers of motorcycles and sundries.

Alex Klein, 439 N. Broad Street, agent for the Harley-Davidson, has sold all his second hand machines and is expecting a good spring business. C. Feeler, 2121 N. Broad Street; Merkel-Light. Daniels, 6th and Girard streets; Thor. Charles Krauss, 2223 N. Broad street; Indian. Is doing a very good business. George Reinbold, 2419 N. Broad Street; handles the Yale and Auto-Bi. Is in the market for second hand machines. V. L. Singley, 2nd Street and Girard Avenues. Is well located and is a good live agency man; wants to close up for a good machine; prefers the Reliance or Thiem. W. G. Rhodes, 19th and Oxford Streets; Reading Standard agent. John Benders, 1334 Wood Street; small dealer but a very live man. Is looking for an agency. Louis Paris, 2212 North Broad street; M. M. Max Shadkin, proprietor of Haverford Cycle Works, 827 Arch street; N. S. U.; Thackara, 5508 Germantown avenue; wants an agency. Harman & Irelan, Chadwick street and Washington avenue, agents for the Harman, a motorcycle made at the plant of A. E. Irelan, American and Jefferson streets. Springler, 16 North Fifty-second street; Royal and Curtiss.

CRYDER & COMPANY, of Park avenue and Sixty-third street, New York, are U. S. agents for the Kempshall Non-Skid Tire for motorcycles. The Kempshall tire is an all rubber tire, and is guaranteed to be non-skidding even on the greasiest of road surfaces. In addition, the tire is wonderfully strong, as it contains an abnormal quantity of the best rubber and fabric, and on automobiles as much as 12,000 miles has been obtained, even on large, heavy cars in constant touring service. The tire is made in motorcycle sizes and the company would be pleased to send literature to any inquirers.

DIDST ever see the letterhead of C. C. Hopkins, that live Frisco Indian agent? The scheme is green and red, but mostly green. It's as green as a field of shamrocks. It hits you right in the eye and hits you hard. It's a thriller. If you are nosing about for a striking letterhead try to get a glimpse of the Hopkins' one—759 Gough street, Frisco, Cal.

IF you happened into Ovington's store any day you would run across the smilingest little man in New York City. He is Stanley T. Kellogg, the well-known racing man. A motorcycle man noted the illumination and traced the glow to its source. Stanley softly confessed that he had been getting married. "Oh, just a week ago." The new home is in Bridgeport. Stanley commutes home daily.

IT may interest agents and owners of machines in and about New York to know that the demand for second-hand two-wheelers in Philadelphia is greater than the supply. It will be decidedly to the advantage of those who have second-hand machines to communicate with Philadelphia agents.

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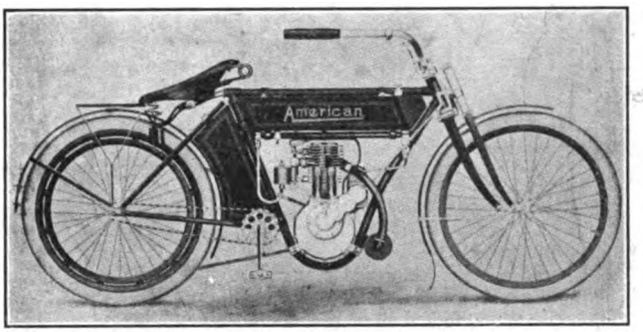
THE AMERICAN, ANOTHER WELL-BUILT WESTERN MACHINE

AMONG the new advertisements in this issue of Motorcycle Illustrated is an interesting full page announcement by the American Motor Cycle Company, 497-501 Wells street, Chicago, Ill. This company has just placed on the market the "American," a pedalless machine which, as the cut herewith indicates, possesses many other attractive features. A. J. Musselman, of the American Motor Cycle Company, proposes to use plenty of printers' ink to the end of popularizing the "American" which, as will be made plain from a perusal of the following description, is deserving of popular favor and support.

In the American, three foot pedals control the entire change speed mechanism in the rear hub as well as two powerful band brakes, one internal expanding and the other external contracting, both acting on the rear hubs. The low gear gives the motor a 7¾ to 1 gear and the high gear is 3¾ to 1. The two speed gear, being in the rear hub, permits of the motor being cranked from the rear axle, with the clutch disengaged. The entire gear and rear hub are mounted on imported F. & S. annular ball bearings.



An American Single Cylinder Model.

The exhaust and intake valves are interchangeable, made of nickel steel drop forgings turned on centers, then heat treated and ground on stem and seat. After that they are ground to valve seat. The exhaust valve cam and cam gear are integral, made from a solid steel bar hardened and ground. The cam lifts the valves by first coming in contact with a hardened roller held in the valve lifter, or pawl. This in turn lifts the valves and relieves the push rods from all side strain and friction.

The timer case is held to the cam case by a hardened steel bearing nut against a hardened steel spring washer, which prevents the usual wabbling common in most motors and causes misfiring. The contact maker is of hardened bronze, oscillates on a hardened screw, and is held against the timing cam by a coil spring. The adjustable screw is held in timer case by a fiber bushing.

Oiling is by a special force pump located in tank which can be operated while riding. This insures against any and all dangers of not oiling, as is sure sometimes to happen with sight-feed oilers. The gasoline tank holds six quarts of gasoline, sufficient for more than 100 miles, and two quarts of lubricating oil, sufficient for more than 200 miles.

The cylinder and head of the single cylinder machine are made from special gray iron and are cast integral. The valve chamber is part of cylinder, but has an air space between itself and cylinder; both have large cooling flanges. Exhaust port is very large, and exhaust and inlet valves are large. The cylinder is finished by first boring, then heat treatment and then by special grinding, and then by final polishing. It has a bore of 3¼ inches by 3¼ inch stroke.

The piston is made of hard gray iron, heat treated and ground to a true and round surface. The piston is very light, as is also the connecting rod, to eliminate vibration. The connecting rod is of I beam section, has large ball bearing, receives heat treatment, is very light and strong.

The frame is of seamless steel tubing, all 16 gauge, has long wheel base and very low saddle position. Motor is low in frame and securely fastened in loop, low center of gravity, easy to ride through sand and crowded traffic streets.

The transmission is of the approved V belt of correct angle, eliminating the use of idler.

The American Motorcycle Company has an attractive agency proposition, well worth the attention of live men.

THE HOUSE OF MILLER

ONE of the most progressive houses in the automobile trade, and this means also the motorboat and motorcycle trade, is Charles E. Miller. It is funny to call an individual a house, but Miller has grown to such huge proportions that he has become a national institution. Each year he publishes a catalogue about this time which is a sort of encyclopedia of motor necessities and accessories. In the Miller 1909 catalogue you can find anything that anyone may possibly want for a car, a boat, or a cycle. The Miller headquarters are at 97 Reade Street, but there are many branches in New York City and also houses located in Philadelphia, Boston, Cleveland, Buffalo and Brooklyn. With the catalogue Charles E. sent a letter, which is brief, interesting and characteristic. It is appended.

"Our catalog for years has been held as a handy book of information by everyone connected with the motor trades. We illustrate and list articles too numerous to mention, using the correct descriptive matter with proper list prices and giving correct measurements in detail. We shall be glad to have you look the catalog over. We would particularly call your attention to the fact that the list prices in our catalog are not inflated, as they are by some houses, who give anywhere from 25 per cent. to 50 per cent. off to consumers. There is no house in our line that can give any such discount from the list prices in our catalog, taking workmanship and material into consideration."

It may be of interest to F. N. riders to know that the Prospect Motor Company, of 1900 Broadway, has special tools for rebushing the crank case of such machines. When these bronze bushings wear down, they may be shimmed up again through this process.

AN ELECTRIC SEARCH-LIGHT

I NOTICED on page 20 of your April 15th issue, that Mr. A. J. Fuller inquired about an electric searchlight for use on motorcycles. As one thoroughly acquainted with this subject, I should like to inform your reader that the problem of the electric searchlight for motorcycle use has been solved by the introduction of the new Tungsten lamp. In the old days, electric lamps on bicycles and motorcycles were not a success, owing to the fact that the carbon filaments, used in the construction of the lamps, could not withstand the road vibration. As most of your readers know, the new Tungsten filament is metallic, and not carbon at all. I used one of these electric lamps all of last year, operating it from a small storage battery which can be very easily recharged. The lamp gives a much better light than any acetylene lamps which I have ever seen, and at the same time it is very light, weighing slightly over 3½ ounces. Of course, the storage lamp weighs considerably more, but it is not supported by the lamp bracket.

Very truly yours,

New York. EARLE L. OVINGTON.

THE LITTLE ONE-INCH AD.

The little one-inch ad we have carried with you has simply swamped us with inquiries and we are booked with all the business we can handle until the middle of June. For returns we can heartily recommend Motorcycle Illustrated.

St. Paul, April 20th. KELLER & RISQUE.

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9 Riders

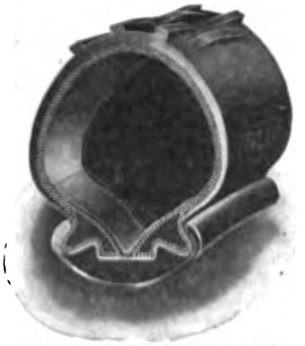
Use G&J M

G & J Corrugated Tread

Practically 90% of all th
equipped with Indi

Think of It! Do

FIRST. All the leading Motorcycle Manufacturers equip their machines with G & J Tires. They know that the reputation of their product depends largely upon the quality of the tires. Therefore they've gone into the subject thoroughly—have investigated carefully the quality and construction of all the tires—have found out just what each tire will do and why—**then have chosen Indianapolis G & J's as the most satisfactory** equipment for their machines.



G & J Basket Tread

Try them on your Motorcycle a
no matter how much

Our catalogue not only illustrat
Motorcycle tires but
accessories.

G&J TIRE C

Kindly always mention the

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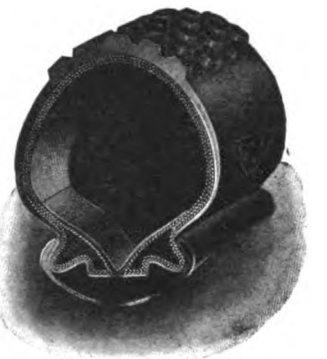

G & J Bailey Tread

SECOND. Riders who buy machines equipped with Indianapolis G&J Tires, try no others afterward. They find them so satisfactory from the start—**so safe, so convenient, so resilient, so durable**—that they continue to use them. Indianapolis G & J Motorcycle Tires are constantly attracting new users and forever holding the old. They cost a trifle more than other tires but they last so much longer and give so much better service that they have always proved the most economical in the end.

'ou will be agreeably surprised
e led you to expect.

nd prices our complete line of
)t of mighty useful
nd for it.

G & J Raised Tread

, Indianapolis, Ind.

en writing advertisers.

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AUTO-BI'S METROPOLITAN AGENCY

The Auto-Bi Company, of Buffalo, manufacturer of the Greyhound, has appointed the Brown-Dewey Company, of 1697 Broadway, New York, as agents and distributors in Greater New York, in the lower part of the state as far as Poughkeepsie, and in New Jersey. The connection is one upon which the Auto-Bi people may well pride themselves, and it is indeed a hopeful sign to have such a firm take up the motorcycle. The Brown-Dewey Company's place of business is in the heart of the motor district. Its salesrooms, fine as they are, will be enlarged in the near future. The company, with which is identified two snappy, clean-cut business men, has ample capital for all undertakings, so that the interests of the Auto-Bi Company will be well conserved.

W. L. Brown, senior member of the firm, is treasurer of the George S. Hart Company, president of the Bilbro Auto Company, president of a local taxicab company and an officer of several banks. M. O. Dewey, Jr., is secretary and manager of the company. He lives in Westfield, N. J., and is well known throughout that state, as well as in metropolitan business circles. An absolute order of substantial size has been placed with the Greyhound manufacturers, the Auto-Bi Company. Vice President Overman is highly pleased as a result of the connection, and is congratulating himself upon having waited, rather than to have made one which might have been less satisfactory.

Mexico City.—The motorcycle is growing in popularity in Mexico. These machines are to be seen on every street in the city of Mexico, and where formerly their riders were the harum-scarum type of youth, more staid—and careful—riders are now to be noted. Says the Mexico City Herald, discussing this subject:

"The growing popularity here of the motorcycle, both as a business and pleasure vehicle, is noticeable even to the most disinterested person. The motorcycle in a half-acceptable fashion, was on the market before the automobile, and each year has seen it improved until today it is a wonder in the way of reliability, compactness and power. It has a range of speed from six to sixty miles an hour and it is next to a steam engine in flexibility, its control being simplicity itself—'simply a twist of the wrist.'

"The motorcycle is said to have been 'overshadowed by the automobile.' It is true that it did not come before the public with such a hurrah and grandstand display as did the four-wheeler, but it was the natural successor of the push-bicycle, and as the latter has lost in popularity so has the self-propeller two-wheeler gained in public favor.

"The motorcycle has been adopted by many professional and business men in Mexico as an inexpensive, rapid and handy means of transportation. The tricar, too, for double riding, is also growing in popularity."

Hastings & Miller make in this issue their formal debut as advertisers. This firm has been located at 118 Nassau Street for years, where they carry on a photographic supply business. In fact, in this line they are one of the most famous houses in the city. For some years past one of the partners, Theo. K. Hastings, has been a very prominent figure in motorcycling, winning medals both here and abroad in various contests. This interest finally led him to enter the motorcycle trade and the firm has taken on the Indian line. The agency is located on one of the most important shopping streets for men in New York City, Nassau Street, a narrow lane running from Beekman to Wall Street, with tremendous business houses along it. Probably 100,000 men walk along this street every day. For this reason alone their agency ought to be very successful.

A meeting of the Motorcycle Manufacturers' Association was held at Buffalo on April 21st. It has been given out that no business of any great importance was transacted, though many things were talked over, such as the tariff revision, the securing of better freight rates, the question of publicity and other matters of interest to manufacturers. The N. S. U. Motor Company and the Fabrique Nationale, represented by the Ovington Motor Company, were admitted to membership. The meeting was a success in every way, and all the members showed great interest in the proceedings. After adjourning those present were entertained at a lunch given by the Pierce Cycle Company and the Auto-Bi Company, both Buffalo concerns. Representatives of these firms also took their guests on a trip to Niagara to see the ice gorge.

Augusta, Ga.—The local agents for the Reading Standard, Lyon & Kelly, 817 Broad Street, report a very satisfactory demand for the R.-S. machine, and great interest in the sport throughout the State.

New Haven, Conn.—The Gilbert Manufacturing Company, recently incorporated here, will manufacture a number of specialties, among them belts, carbureters and waterproof garments and coverings.

Wheeling, W. Va.—E. L. Freiderich has removed his machine shops from 1523 to 1500 Alley B. He intends to go into the auto and motorcycle repair business, and may be open for an agency.

Syracuse, N. Y.—Two models of the four-cylinder Pierce are being shown by the Amos-Pierce Garage. F. L. Reed & Son, 313 North Salina street, are showing four models of the M. M.

Homestead, Pa.—Coulter & New, of Eighth avenue, have secured the agency for the Indian and will handle this machine along with their bicycle business.

Denver, Colo.—Fred B. Chamberlain lost his Yale machine in a fire which recently destroyed the garages of the Felker and the Trinkle Auto companies.

Providence, R. I.—The local police department has received from B. A. Swenson two 5-h. twin Indians fully equipped with speedometer, lamps, etc.

Los Angeles, Cal.—A. Freed, of 806 South Spring street, this city, and 1505 Market street, San Francisco, is popularizing the Thor in both those places.

Canandaigua, N. Y.—Louis F. Bradburn, 45 Chapel Street, has secured the Harley-Davidson agency for this place and surrounding territory.

St. Louis, Mo.—Carl Bahnsen, 1701 South Broadway, is now handling the Reading Standard, the Torpedo and the Iver Johnson machines.

Louisville, Ky.—The Excelsior is being handled here by the Lee Miles Auto Company. The Indian agent is the Sutcliffe Company.

Rochester, N. Y.—Neff & Malone is the style of the firm which has succeeded Forest and Malone in business at 12 Monroe avenue.

Los Angeles, Cal.—The Pierce four-cylinder is being handled in this city by John T. Bill & Company, of South Main Street.

Indianapolis.—The Detch Wheel Company will have a new 1909 building. It is five times larger than their 1908 quarters.

Milwaukee, Wis.—Theodore M. Glaessner, 1804 Prairie Street, is the local agent for the Greyhound.

Princeton, Ill.—Gibbs Brothers, agents for the Yale, have just added the Harley-Davidson.

Lowell, Mass.—The New Era agency here has been secured by Leonard Huntress, Jr.

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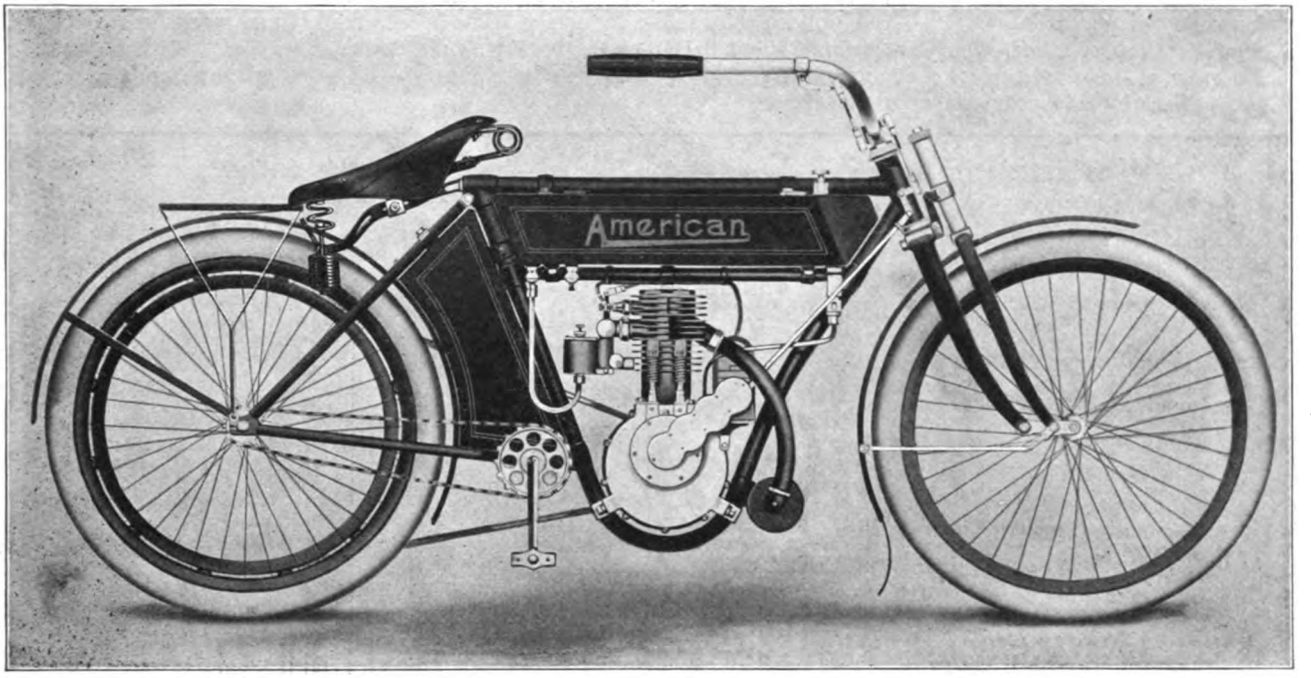
AMERICAN MOTORCYCLES



Model III. $235.00 List

We Want Live Agents

Our proposition to Agents is one that will make you money.

"AMERICAN" Agents get a fair margin of profit for themselves. The **"AMERICAN"** Agency will make you more money than any other.

Don't Work For Love

Write us today. ***Do it now.*** Invest two cents in postage. Get your application in at once. You will be sorry if you don't.

Our line consists of five models, listing at $195.00, $210.00, $225.00, $235.00 and $250.00.

CATALOGUE NOW READY

American Motor Cycle Company

Wells and Schiller Streets, Chicago, Ill.

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UNIMPEACHABLE TESTIMONY

We gather a nosegay of affection and appreciation and hand it to the trade. Some firms have not yet awakened to the potency and far-reaching strength of Motorcycle Illustrated. But here's unimpeachable testimony from various points. Individual readers like the paper. The agents read it and work for it. They send us in two, three, four, five subscriptions. One news agency sends seven at a clip. Without doubt Motorcycle Illustrated is the strongest paper of the sort in this country. Its sales on newstands are unapproached by any other paper of its class.

A BUNCH OF SEVEN.

Denver, Colo., March 10th.—We enclose check for the following seven subscribers, all of Denver. With best wishes, we are,
Yours very truly,
CARLISLE NEWS COMPANY.

THE GREATEST.

North Chesterville, Me., March 18th.—Renew my subscription. Think the paper the greatest out for motorcycle riders.
FRANK W. HODGKINS.

AN EAGER HELPER.

Utica, Neb., March 29th.—I enclose subscription; send me five extra copies. I can get you other subscribers.
H. C. BJERRUM.

GOT FIVE SUBSCRIBERS.

Indianapolis, Ind., March 23rd.—I enclose you check for five subscriptions. Send me more subscription blanks and copies.
ROBERT H. STURM.

SENDS THREE.

Decatur, Ill., March 4th.—Enclosed find three subscriptions.
KELLINGTON & DIECKHOFF,
Motorcycle Agents.

LANDS ANOTHER.

Waco, Tex., April 1st.—I have landed you another subscriber. You have a fine paper, well worth the money. Many read my copy beside myself. I was the first here that I know of to get your paper.
C. M. SEELEY.

ONE AGENT'S WORK.

Troy, N. Y., April 4th.—Enclosed find check for four subscriptions, including my own. Send me more application blanks.
J. B. WILBUR.

BEST EVER.

North Girard, Pa., March 17th.—Enclosed find subscription to your paper, the best I ever read. Got everything on the market "skinned." Wish you unlimited success.
E. J KINZIG.

PASADENA AGENT SENDS SIX.

Pasadena, Cal., Feb. 5th.—Enclosed find check for six new subscribers. Send me by return mail a bunch of subscription blanks.
PARK CYCLE COMPANY.

EACH ISSUE IS BETTER.

Roxbury, Mass., Feb. 5th.—I enclose renewal. Each issue is better than the last. I consider my dollar well invested.
R. B. SIMPSON.

WOULD PAY TWICE THE PRICE.

Gorham, N. H., March 2nd.—Enclose renewal. Have been a subscriber for some time. Would not be without it for twice the price.
FRANK W. POTTER.

WOULD NOT MISS A NUMBER.

St. Paul, Minn., Feb. 12th.—Please renew my subscription at once. Would not miss a number. Think your paper is the clear dope for motorcyclists.
WALTER PATTERSON.

THE FINEST.

Easthampton, Mass., Feb. 1st.—Received sample copy. Enclose subscription. Think magazine is the best of its kind on the market.
FRANK W. COUCH.

THINKS IT IS FINE.

Greenlake Station, Seattle, Wash., Jan. 30th.—Enclosed find subscription. Think the paper is fine.
R. F. CATTRELL.

JUST THE THING.

Picton, N. J., April 1st.—Enclosed find subscription. Saw copy on news-stand and, to my delight, found the paper to be full of just the kind of dope I was looking for, and I am looking for more.
G. M. GALLOWAY.

GASOLINE DOPE MANIACS.

Torrington, Conn., April 5th.—I have read your paper for two years. During winter months, the repair shop is open every night and thither the gasoline dope maniacs wend their way after supper.
J. L. SMYTH.

SUBSCRIBED FOR HIS FRIEND.

Corning, N. Y., April 6th.—Enclosed find subscription. I take pleasure in sending this for a friend of mine who has been reading my paper.
UNSIGNED.

FROM A PIONEER.

New York City, March 22nd.—I certainly enjoy your paper.
L. H. GUTERMAN.

JUST WHAT HE WANTED.

Alameda, Cal., March 13th.—Enclosed find $1.00 for subscription. Friend handed me a copy and I found it just what I wanted. Wish you all kinds of success.
C. G. WOODBURY.

BEST ONE PUBLISHED.

Cincinnati, Ohio, April 1st.—We already subscribe. The paper is the best paper for motorcyclists published.
MILTON MOTORCYCLE COMPANY.

HAD TO HAVE IT.

Eagle Grove, Iowa, March 4th.—Enclosed find subscription for Q. C. Carpenter, Manager of the local Telephone Company. He saw my paper today and decided that he had to have it. It is certainly a fine paper
L. W. WORTHINGTON.

BEATS THE OTHERS.

Cashmere, Wash., Feb. 5th.—For several years I have enjoyed *Motor Cycle*, of London, but your magazine is fast beating it. Wishing you the best, etc.
M. G. HENRY.

EAGERLY DEVOURED.

Boston, Mass., Feb. 3rd.—Saw your paper for the first time today and devoured its contents eagerly and take great pleasure in enclosing my subscription.
M. D. RIGDON.

TOO GOOD TO BE WITHOUT.

Helena, Mon., Feb. 5th.—Enclosed find renewal. Your paper is certainly interesting and shows a marked improvement over the old MOTORCYCLE ILLUSTRATED. It is too good to be without. I wish you continued success for 1909.
R. R. MCDONALD.

DELIGHTFUL!

Good Ground, L. I., Feb. 17th.—Enclosed find subscription; also send copies to etc., etc. Your paper is delightful. Would not be without it any more than I would be without my two-wheeled car.
F. MERTON PHILLIPS.

IMPROVES RIGHT ALONG.

Pittsburg, Pa., April 3rd.—Your paper improves right along. With best wishes for your future and thanks for the pleasant hours I have spent with MOTORCYCLE ILLUSTRATED, etc.,
VAUN L. HAMLIN.

We Have Hundreds of Others

Kindly always mention the paper when writing advertisers.

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MANUFACTURER AND AGENT

The Quick Action motorcycle stand, manufactured by Henry T. Adams Company, of Chicago, has the following distinct advantages: A touch of the foot raises or drops it instantly, leaving both hands free to handle the motorcycle; it is perfectly rigid under the heaviest machine and rider. There are no springs to stick, no clamps to get loose, nothing to give trouble or rattle; it has a unique advantage in that it can be so attached as to be instantly removable for racing. It is ideal for show room or demonstrating purposes, protects the machine in a rear end collision and is entirely out of the way when folded.

For repairing tires, warming up or adjusting the engine and for supporting the machine whenever it is left standing, this stand will be found very valuable.

Another popular Adams product is the quick action motorcycle repair pedal, which may be carried in the toolbag, to replace a broken pedal. Owing to the peculiar design of this repair pedal the machine can be pedaled without wearing out the rider's shoes, yet the corrugations do not allow the foot to slip off sideways. It is flattened to take a wrench and plated to prevent it from rusting. One or two of these will provide against a lot of possible delay. They are especially valuable in touring, endurance contests or road races.

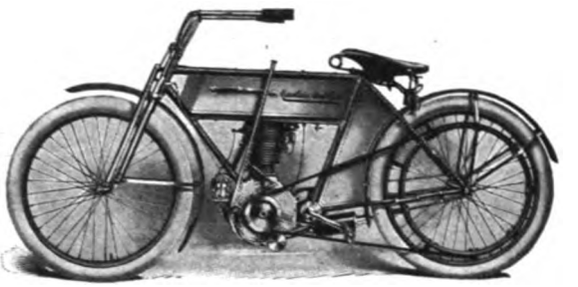
The National Sales Corporation, which has long been located at 296 Broadway, announces its removal to 232 West 58th Street, right in the heart of the motor trades. Here the company will occupy a three-story building, with dimensions of 20x100 feet. This structure will be jointly occupied by the National Sales Corporation and the Emil Grossman Company, Emil Grossman being the President of both concerns. In these new quarters a complete line of wind shields, Red Head spark plugs, Peugeot engines and other automobile and motorcycle products will be carried.

Buffalo—The Auto-Bi Company has just added to its growing organization Mr. C. B. Hull, lately of Elyria, O., and a motorcyclist of many years' experience. Mr. Hull is an expert in office and factory management and it is believed that his energy and intelligence will contribute largely to the efficiency of the Greyhound forces. His office title in the Auto-Bi Company is general manager. The Greyhound Sales Department is in charge of Mr. W. C. Overman, the company's vice president, and is in a most flourishing condition.

Trenton, N. J.—The Empire Tire Company, which has been running its plant night and day since February 1st, is building an addition to its factory.

Store of L. E. French, Buffalo's M. M. Agent.

EXCELSIOR Auto-Cycle



The King of Road Machines

Proves its superiority in two hill tests.

At REDLANDS, CAL., Four Excelsiors finish 1, 2, 3 and 4, defeating all competitors, both motorcycles and automobiles.

Distance 15 miles, rise 1 mile
Time 18 min. 5 sec.

At ATLANTA, GA., Two Excelsiors won First and Second, defeating stripped racers with auxiliary exhaust ports and all automobiles.

This is just a start for 1909 showing that the

Excelsior Auto-Cycle
ALWAYS MAKES GOOD

EXCELSIOR SUPPLY CO.
ESTABLISHED 1876
233-237 Randolph Street, CHICAGO, ILL.

MR. AGENT: Are You Satisfied?
Don't handle a Machine you have no faith in. Write for details of the Motorcycle that satisfies.

STANLEY T. KELLOGG, Eastern Distributor
2223 Broadway **New York**

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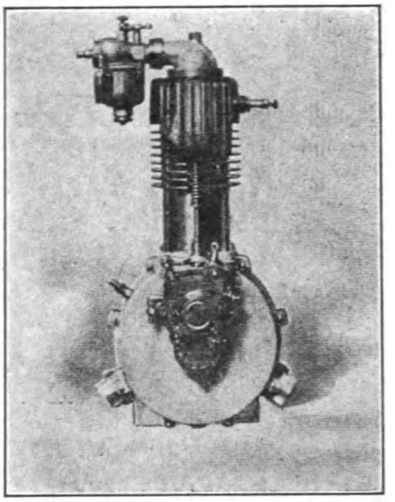
PHILADELPHIA AGENTS ORGANIZE—TRADE NEWS OF OTHER PLACES

Philadelphia—Local agents have formed an association for their mutual protection, the promotion of race meets, the first of which will be held on the Point Breeze track May 22nd, and for the purpose of still further popularizing the use of the motorcycle. The first steps were taken about two weeks ago, at the instance of L. H. Cornish, advertising manager of MOTORCYCLE ILLUSTRATED. Two meetings have already been held, R. S. Morton, a former chairman of the F. A. M. Competition Committee, acting as temporary chairman at the first and offering many good suggestions. The Association has elected the following officers: President, Chas. E. Bradley; vice president, Alex. Klein; secretary, Chas. Krauss; assistant secretary, C. D. Feiler; treasurer, Geo. Reinbold. The other members are: C. V. Stahl, chairman Press Committee; W. G. Rhodes, chairman Racing Committee; John V. Daniels, L. J. Spingler, Edw. L. Parris and Max Sladkin. It is thought that the association will unite with the P. M. C. as a body, although nearly all of the dealers are members of the club.

George W. Lyon, of 170 East Thirty-third street, Chicago, is manufacturing a motor, a cut of which appears herewith. The motor is of standard design and of 30.50 cubic inches displacement, its bore being 3 5-16 inches and its stroke 3½ inches. It is equipped with ball bearings on both main shafts, has wide half-inch cam and tool steel gears, hollow cross head pin and two piston rings eccentric turned. The motor is designed for either force feed or sight feed lubrication and the spark plug may be inserted in either the head or on the exhaust port side. It weighs forty-three pounds.



H. A. Gliesman, proprietor of the Tiger Cycle Works, 782 Eighth Avenue, New York, who is forever casting about for anything that will assist the cyclist, announces the discovery of a small article that is being received by that fraternity with much satisfaction. It is a storm-proof lighter that is really storm-proof. The strongest wind or draft fails to blow it out. It can be carried in the vest pocket, and it takes no more room than two short pencils side by side, being 4 inches long, 1 inch wide and one-quarter inch in thickness. But the most attractive side of it is its price, 25 cents, with two extra charges of lights. Each charge contains fifty lights, and they can afterwards be bought for 2½ cents each. The Lighter is perfectly safe and guaranteed to give absolute satisfaction. Its simple construction, it being made of two pieces only, is proof against its getting out or order. Unlike other lighters, it needs no wick, no flint, no spirits and has no working mechanism or platinum threads to break.

The severe jar of motorcycles makes it imperative that accessories should be strong. Motorcyclists appreciating this are willing to pay a fair price for a good lamp with proper attachments. The Twentieth Century Company, 19 Warren street, New York, is marketing several attractive models, some of which are as follows: No. 100, front diameter, 5 inches, 4-inch ground Mangin lens reflectors, brass polished or nickel finish; brackets to fit different positions. No. 102, same description and prices, with lug on each side and two-prong bracket No. 14¾. No. 4 Headlight, the original "separate generator" motorcycle lamp, now extensively used at home and abroad as the popular priced lamp; brass-nickeled, aluminum reflectors. No. 9 Generator (for above lamps), brass-nickeled; height, 6 inches; diameter, 2¼ inches; carbide capacity, 6 ozs. Supplies, approximately, searchlights five to six hours; headlights, six to eight hours.

Detroit, Mich.—Herbert A. Mitchell, 377 Jay street, reports the theft of his Harley-Davidson, No. 1735. It is blue and black in color, with one-half-inch red stripe running through center of guards and wheel rims; the head is enamelled red to match and the tanks are striped with gold. The machine is equipped with Morgan & Wright tires which have been retreaded with Bailey treads. It looks like new, having been ridden only a few miles since its re-enamelling and renickeling. Mr. Mitchell offers a reward of $25 for information which will lead to the return of his machine.

Dayton, O.—W. B. Schaeffer & Company, and Niehaus & Dohse are considered the pioneer dealers in this city. This year, however, two others are selling motorcycles, the Harry Gross Company, of 14 West Second street, and the Dayton Vulcanizing Company. Niehaus & Dohse have the Excelsior agency.

The local club is rapidly increasing in membership. Summer runs are being planned, and a race meet for May 29th. The dealers have just had a show, which opened with a street parade, the Dayton club leading with about fifty riders in line.

Chicago, Ill.—Charles Blankenheim, who for several years was identified with the Hornecker Motor Manufacturing Company, has, with L. J. Leonard, organized the Chicago Motorcycle Works and opened a place at 2436 Southport avenue. Blankenheim and Leonard will manufacture the Meteor, employing a Peugeot motor. They will also carry the Thor and a full line of accessories.

Minneapolis, Minn.—The police department has purchased four and the park board three Thors from Nels A. Rosendahl, 317 Third avenue, South. This makes six Thor machines at police headquarters. Mr. Rosendahl states that the demand for Thors has been great for the past three weeks. "I have wired the factory," he added, "to double my order placed recently."

Baker & Co., 37 Warren Street, New York, now have ready for distribution their 1909 motorcycle supply catalogue. It has forty pages, lists hundreds of specialties and necessities, which are illustrated, described and priced, and it will be sent anywhere on request.

Just as this paper was going to press word was received that the Lockport Rubber Works had been completely destroyed by fire.

Pawtucket, R. I.—The local police have placed orders for two 3½-h. M. M. machines with H. G. Baxter, agents here for the American Motor Company's product.

Manchester, N. H.—C. J. Geroux, local agent for the Curtiss and Reading Standard, reports that efforts are being made to organize a club here.

Batavia, Ill.—C. Magnus Anderson, 71 South Batavia avenue, has secured the local Thor and M. M. agencies.

Pittsburg, Pa.—J. A. Johnston, of 639 Liberty avenue, has secured the local agency for the Excelsior.

Piqua, O.—Howell Gano has secured the Yale representation for this place and nearby territory.

Torrington, Conn.—The Thor has been placed in this town.

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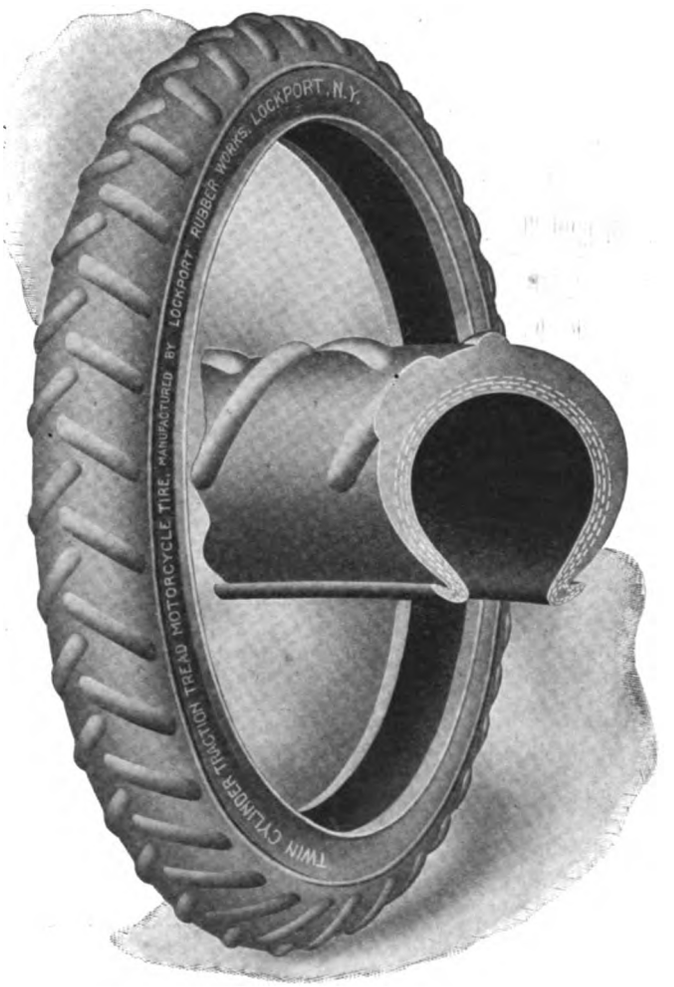
Built For a Motorcycle

TWIN-CYLINDER TRACTION TREAD ANTI-SKID

(Not Built Like a Bicycle Tire)



Traction on the Hill

Traction on the Level

Traction on the Turn

LOCKPORT RUBBER WORKS

Lockport, N. Y.

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THE 20th Century MOTORCYCLE SEARCHLIGHTS

Mangin Lense Reflectors
Split Front Glass

FIRST IN STYLE AND QUALITY AND FIRST IN THE HEARTS OF THE MOTORCYCLISTS

Send for Complete List, Lamp Bracket Attachments, each and all Motorcycles

Lamp No. 108 Bracket No. 146

Automobile & Boat Lamps (See Catalogue) 20th Century Mfg. Co., 17 Warren St., New York City

MOTORCYCLE MART—IT SELLS THE STUFF

Buy; Sell, Exchange. Two Cents a Word. Cash With Copy

FOR SALE OR EXCHANGE

FOR EXCHANGE—New Standard Typewriter and $40 or 2-cylinder motorcycle. J. A. Ramsey, Lincolnton, N. C.

GOOD opportunity to secure a first class four-cylinder 7-h. p. motorcycle for $200. Have two of the same make. P. V. Rosenbarger, 2000 Tribune Bldg., N. Y. City.

FOR SALE—Columbia motorcycle in good order. 2½ horsepower. Has been used very little. Write for particulars. Raymond P. Haviland, Hightstown, N. J. Box 262.

FOR SALE—Ford auto in good condition; will take good car or 2- or 3-cylinder motorcycle in part payment. P. C. Walter, Viola, N. S.

FOR EXCHANGE—New 4-cyl. marine engine and boat fittings for motorcycle; state condition, make and horsepower. James H. Reese, Yuma, Neb.

FOR SALE—2-h. p. Merkel motorcycle, complete, in good condition, with stand and solar lamp; $75 takes the outfit if taken at once. Rudolph Johnson, 1207 East Herzimer street, Decatur, Ill.

FOR SALE—1908 M. & M. special 3-h., excellent condition; $140 bargain. G. C. Weaver, St. Joseph, Mich.

AT A SACRIFICE for my 1905 Indian (run one summer), account being abroad; new tires, new chains, ⅝-inch pitch engine drive; not run 50 miles; also $30 new repair parts for emergencies; machine in fine condition, for a twin-cylinder Indian and forecar. Must be able to travel hilly country with two persons. Cash difference, references exchanged. J. D. Jones, 165 East state street, Athens, Ohio.

FOR SALE—Curtiss Motorcycle in perfect condition. Address H. N. H., 362 Warburton avenue, Yonkers, N. Y.

FOR SALE—1907 Racycle, Thor model, 2½-h. motor. Super cushion fork, chain drive, speedy and powerful, in A1 condition and will sell for $100. J. A. Gordon, 203 East Jefferson street, Tipton, Ind.

FOR SALE—1908 M. M., like new, $85; 1909 Indian, one week old, $225. Fred Lloyd, McKeesport, Pa.

OWING TO LOSS of ordering new machine have got to dispose of my 2-cylinder four motorcycle, 1908 model, at once, and will make big sacrifice for quick sale; $175 cash will buy this machine (which is in fine running condition, with good tires, Brooks saddle, new pedals, etc.). First come, first served, but don't write unless you mean business. L. B. Lyman, 440 Main st., Akron, O.

FOR SALE or exchange for motorcycle, auto buggy in good running order, cost $425. For particulars and photo, write Eugene Hill, Bridgeport, Ohio.

AGENTS CARDS, ETC.

A WELCOME to Motorcyclists! When in Cincinnati you are one and all invited to make our place your headquarters. You will be heartily welcome. Special room fitted with every convenience for the tourist. Milton Motorcycle Co., dealers in Motorcycles and Accessories, 1083-5-7 Race street, between Canal and Court streets, Cincinnati, Ohio. 'Phone, Canal, 233.

MOTORCYCLES—35 second hand machines on hand, all makes; $40 up. Send stamp for illustrated circular describing them. Tiger Cycle Works Co., 782 Eighth avenue, New York City.

SAVE chain trouble by using Ball Bearing Fibre Idler, fits Indian, R-S, Thor and Light motorcycles. For cut and price address A. C. Mount, 1158 Washington street, Elizabeth, N. J.

MOTORCYCLES thoroughly overhauled and repaired. Agents for Thor motorcycles, parts and sundries. Brazenor & Ruderman, 849 Bedford avenue, Brooklyn, N. Y.

M-M AND R-S MOTORCYCLES—East End Cycle Co., Highland & Beitler, near Centre Ave., Pittsburg, Pa.

FOR SALE.—One 1910 model, 5-h. Red Indian, magneto ignition, Bailey tread tires, and stand; never been ridden; $265, also ten second hand machines of various makes, from $100 up. W. R. Keilam, Star Garage, Erie, Pa.

HELP AND SITUATIONS WANTED

WANTED—A salesman who is thoroughly conversant with motorcycles, to establish agents and sell the best motorcycle on the American market; reply Salesman, care of Motorcycle Illustrated.

FIRST CLASS bench machinists wanted. Experienced men only. Apply Reading Standard Co., Reading, Pa.

A DESIGNER, improver and technical expert with long and successful record as a salesman, competition rider and general advertisement and business man wishes to become connected with a first class manufacturer in any locality or would be a factory representative in good district. Technical, care of Motorcycle Illustrated.

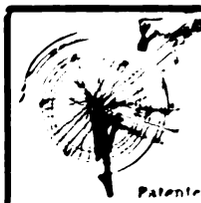
A FIVE YEAR GUARANTEE

On all PFANSTIEHL MOTORCYCLE COILS

The Leading coil. Standard equipment with discriminating Manufacturers. Reasonable prices

Reply DEPT. 8

PFANSTIEHL ELECTRICAL LABORATORY, North Chicago, Ill.



QUICK ACTION Motorcycle Stand. Raised or lowered instantly with the foot. Perfectly rigid. Absolutely Reliable.

QUICK ACTION Motorcycle Repair Pedal. Carried in tool bag or pocket to replace a broken pedal.

WRITE FOR PARTICULARS

For Sale By Most Jobbers

MANUFACTURED BY

HENRY T. ADAMS CO.

6848 S. Park Ave., Chicago

Patented 1909

Patent applied for

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Thor Thor

OH, YOU DOUBTERS!
LOOK AT THIS!

98 4/7 miles 97 min. 59 1/5 sec.

MADE BY

Thor

The Fastest
SINGLE-CYLINDER Motorcycle
ON EARTH

In competition at Los Angeles, Cal., April 18, 1909, with other makes twice its Cylinder Capacity, winning Second Place in the 100 Mile Race, against Twins

DON'T BE A TRAILER
RIDE A Thor

Aurora Automatic Machinery Co.
AURORA, ILL.

Thor Thor

Kindly always mention the paper when writing advertisers.

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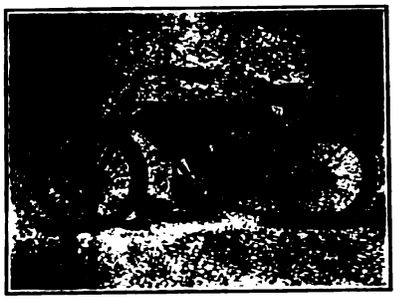
CHIEF LONG, of the Martins Ferry (Va.) Fire Department, has ordered a single cylinder Indian for his official use. The chief has concluded that the motor bicycle offers the speediest means of reaching the scene of a fire, and as the expense of maintenance does not equal the cost of keeping a horse and carriage, the decision of the chief to use a motorcycle has been approved by the township officials.

DALLAS, Tex.—A tri-car, which is to be used by the postoffice in the collection of the down-town mails, has been put into service. This machine is to be given a trial in the business district, the work it does being in addition to that of regular collections. If the machine proves available for the purpose, the schedule is to be revised and more frequent collections will be made.

THE Riverside, Cal., Club has elected the following officers: Edward J. Knoll, president; E. L. Pequegnat, vice-president; C. A. Newcomb, secretary; Stephen McIvor, treasurer; J. A. King, captain; Charles Knoll, first lieutenant; Luther Davis, second lieutenant.

RELIANCE TWIN, 4-5 H. P. $225



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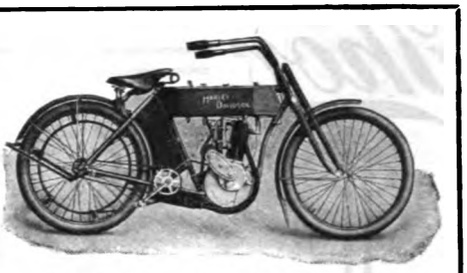
Tiger Cycle Works Co., 782 8TH AVE., NEW YORK
DISTRIBUTORS FOR NEW YORK AND L.I.

FINELY DESIGNED
EASILY CONTROLLED
FAST AND DURABLE



1909 Single Cylinder, Harley-Davidson

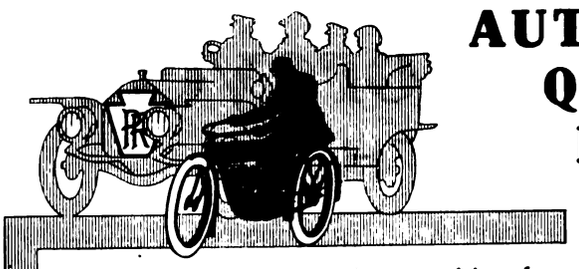
A sample of the letters we receive:—

"Indianapolis, Ind., February 4, 1909.
"Harley-Davidson Motor Co.,
"Milwaukee, Wis.

"Gentlemen—Our machine arrived this morning all O.K., and it certainly is a beauty; after making all the connections she started the first pedal thrust. Your designer has certainly done a very nice piece of work and the boys here are very proud of the Harley-Davidson machine. I didn't have it in the shop half an hour until motorcycle riders of all kinds stopped to see it.

"Yours truly,
"H. L. DIPPLE."

Harley-Davidson Motor Co.
Milwaukee, Wis.
F. B. WIDMAYER, 2312 Broadway
New York Distributor



AUTOMOBILE TIRE QUALITY FOR MOTORCYCLE SERVICE

The wear and tear on tires resulting from the powerful propulsion of gasolene engines is as severe under the motorcycle as under the automobile. The latest and foremost tire affording automobile wearing capacity for motorcycle service is the

PENNSYLVANIA CLINCHER NEW FLAT TREAD TYPE MOTORCYCLE TIRE

If you are using the ordinary light tires, better fitted to stand the strain of foot pedaling on bicycles than the mauling and friction of motor driven travel, you will find it not only an economy but a safeguard to adopt this new and heavier tire—undoubtedly the strongest and most durable motorcycle tire yet made. ¶ It will pay you to write for descriptive booklet, price list and names of dealers near you.

PENNSYLVANIA RUBBER CO., JEANNETTE, PA.
Branches and Agencies throughout the country

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To the motorcyclist who wishes to reduce his machine maintenance expenses

Scores of motorists have proven the expense saving qualities of Morgan & Wright motorcycle tires. In races, endurance contests and the steady grind of day-after-day service, they have time after time proven themselves to be **the tires with the lowest cost per service mile.**

Morgan & Wright Motorcycle Tires

are built of heavy woven auto fabric that will stand two or three re-treads. And it takes a long time to put them into a condition to need re-treading. Both of which combine to lower the maintenance expenses of the motorcyclist who uses them.

Any manufacturer will be glad to honor specifications.

MORGAN & WRIGHT, DETROIT

CORBIN COASTER BRAKES

Corbin Duplex

Coaster Brake Model 8

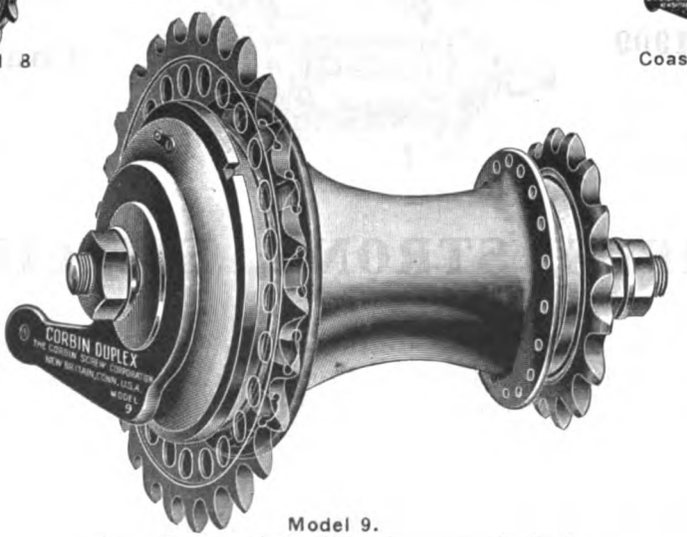
Built Throughout for Motorcycle Use.

½ inch Axle. Larger Bearings, giving longer life.

The Inside Diameter of the Brake Drum is 3 Inches, with Brake Shoes ½ inch wide, giving double the Braking Surface of Any Other Model.

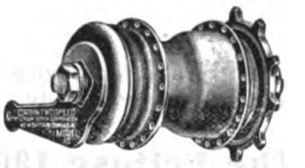
Ask for Model 9

Motorcycle Coaster Brake



Model 9.
Any size sprocket, either ⅛ or 1 inch pitch.

Corbin Two Speed



Coaster Brake Model 10

Model 9 is 5⅜ in. long outside of cones $1^{15}/_{16}$ chain line.

Model 9A is 6⅜ in. long outside of cones 2¼ chain line.

Made for either Belt or Chain Drive Motorcycles.

Heavy Front Hub to match.

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Licensed Coaster Brake Manufacturers **THE CORBIN SCREW CORPORATION,** High Street New Britain, Conn.

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SENSATION OF 1909 SEASON

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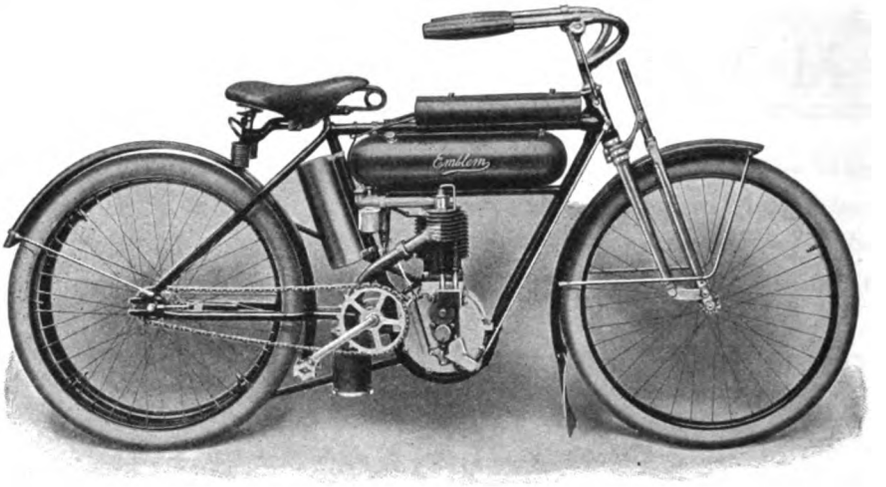
$175.00



4 H.P.
$200.00

EMBLEM MOTORCYCLES

Manufactured by

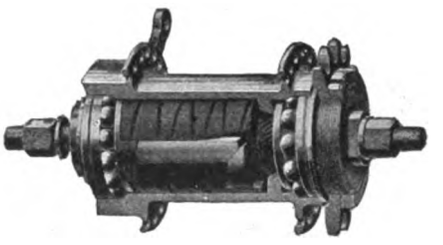
Emblem Manufacturing Co., ANGOLA, N. Y.

Puts All Others In the Shade

THE brake for novice or expert—for everybody.

The Eclipse 1909

Only Eight Parts, none of which is easily broken or put out of adjustment.



The FIRST Coaster Brake designed for motorcycle use.

Coaster Brake

The 1909 model has the largest braking surface ever used.

SIMPLE, STRONG, EFFICIENT

These qualities are most in demand in a Coaster Brake. Where any one is lacking, perfect service is impossible. We have been manufacturing Coaster Brakes for many years. You get the benefit of our experience. Write to us for particulars.

ECLIPSE MACHINE COMPANY, Elmira, New York

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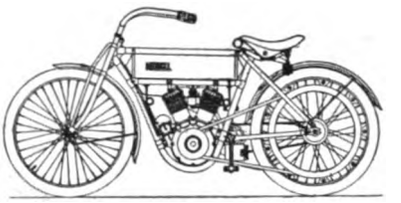
Merkel-Light
1909



¶ The Intending Purchaser who desires full value for his money will find more useful and exclusive features on the MERKEL-LIGHT Line than can be obtained on any other, and will receive not full value only, but extraordinary value for the price asked.

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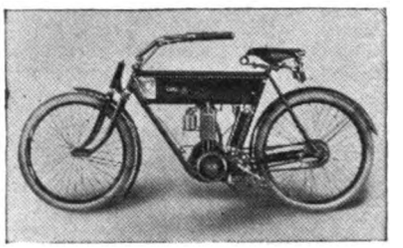
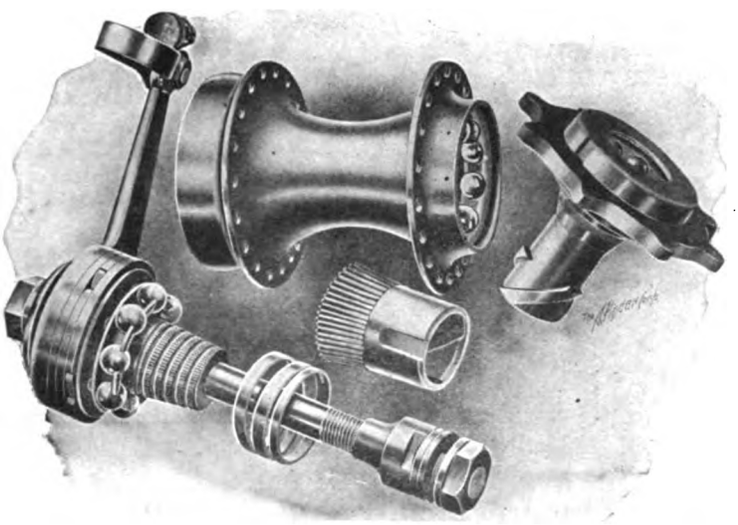
MERKEL-LIGHT MOTOR COMPANY

Pottstown, Pa.



You Can Depend Upon
The New Departure Motorcycle Coaster Brake



It is as strong as steel can make it, simple and few in its parts, well made, handsomely finished and the prime favorite of some of the best known motorcyclists.

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The New Departure Mfg. Co., BRISTOL, CONN.

COASTER BRAKE LICENSORS

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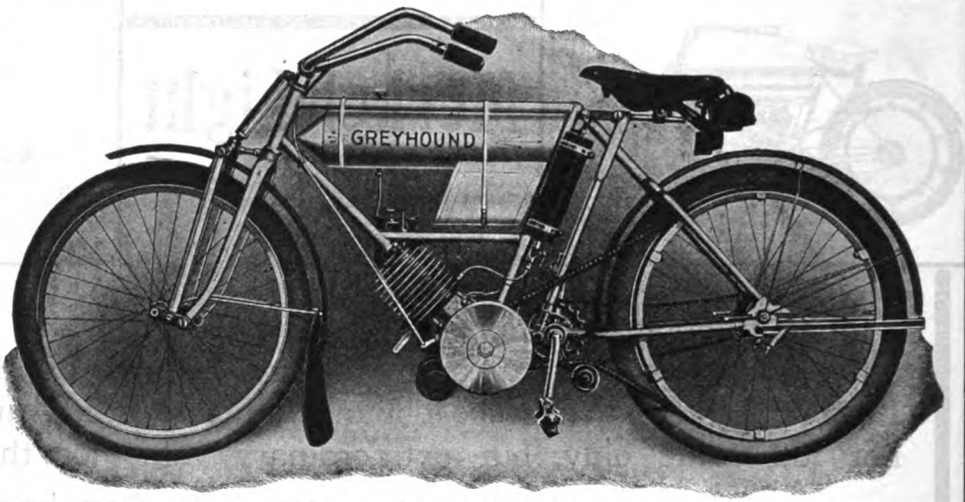
A MOTORCYCLE as good as any in all respects, and better than any other on earth in the matters of SIMPLICITY and COMFORT.

The invariable opinion of both old and new riders is that the GREYHOUND SHOCK ABSORBER is the "greatest ever".



Find out about it and a lot of other interesting points. Good business arrangements for good agents. Catalogue for the asking.

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1459 Niagara Street **BUFFALO, N. Y.**

SALES AGENTS, METROPOLITAN DISTRICT

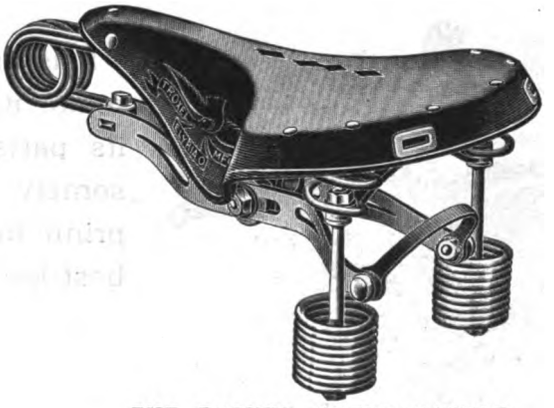
The Brown-Dewey Company—1697 Broadway (near 53rd St.) New York

The Only Real UP-TO-DATE Motor Saddle

SALES TELL THE STORY

MR. DEALER and **MR. USER**

The Eagle Motor is Good to Ride, Easy to Sell, and it Makes you Friends



THE TROXEL MOTOR SADDLE

Notice the Machines that are Equipped with this Saddle and then Judge of its Merits

All of the Good Points Which Insure Quality and Durability

WRITE FOR CATALOG AND GUARANTEE TO

The Troxel Manufacturing Company, ELYRIA, OHIO, U.S.A.

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This is the Silent M. M.

If you would know the real joys of Motorcycling, ride an M. M.

Not alone for its speed and its hill climbing ability, but because of its perfect silence without loss of power.

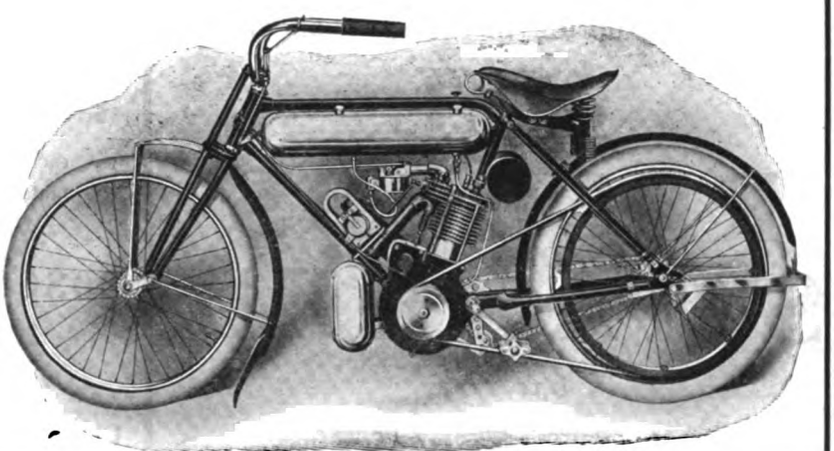
Its reliable magneto ignition, its efficient transmission, its ease of control and its superior riding qualities. Ask any of the thousands of satisfied M. M. riders.

We'll let their experience decide. "Won't you?" Catalog and details for the asking.

AMERICAN MOTOR COMPANY

716 CENTRE ST.

BROCKTON, MASS.



THE TIRE TROUBLE BUG-BEAR

Won't "Bite" The Rider Whose Machine is Fitted With

The Kokomo Gridiron Tread

Long past the experimental stage, this tire is all but indestructible. If you want the best, Kokomo will be your choice.

The rubber absolutely sticks to the cloth, which is specially made of closely-woven Sea Island fabric.

KOKOMO RUBBER COMPANY

SOUTH MAIN STREET **KOKOMO, IND.**

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BANG

Slowly But Surely we've climbed the ladder of Success and now we have proved the N. S. U. to be superior in every respect.

ALL RECORDS SMASHED

by the

NSU

7 H.P. N. S. U.

WINS

1 mile, 46 4/5 sec.

5 miles, 3 min. 59 sec.

6 miles, 4 min. 47 sec.

THE WORLD'S RECORD

For the Amateur class

YOU WANT THE BEST?
Then send us your order to-day
Immediate Deliveries

N. S. U. MOTOR COMPANY

206 West 76th Street, New York City

A Motorcycle Record!

The splendid performance of a well-known motorcycle in a recent 6 mile record run at Los Angeles, was accomplished with the aid of

THE BOSCH MAGNETO

Bosch ignition is bound to be a success on racing motorcycles as much as on any other motor propelled vehicle.

Write for particulars.

BOSCH MAGNETO COMPANY

223-225 WEST 46th STREET

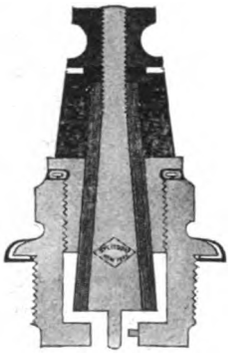
NEW YORK

Chicago Branch: 1253 Michigan Avenue

So Good They Imitate It

The Great Success of the

SPLITDORF Motorcycle Plug



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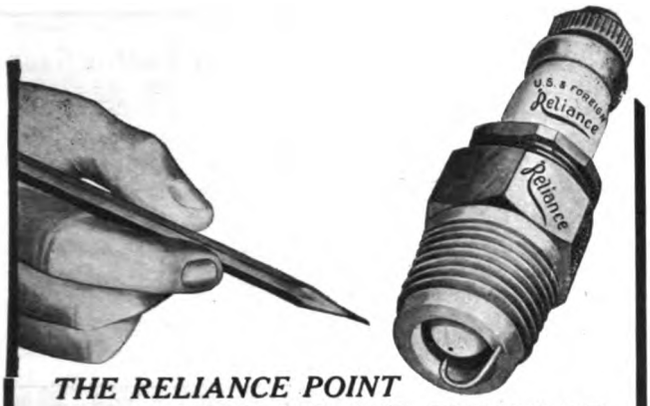

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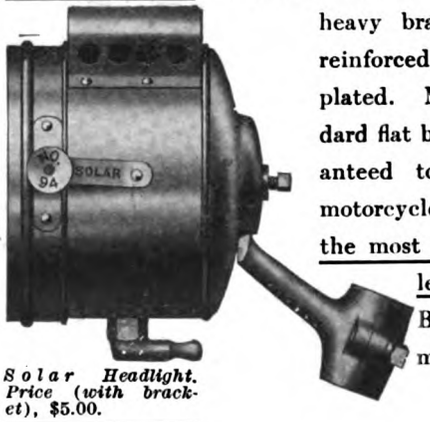

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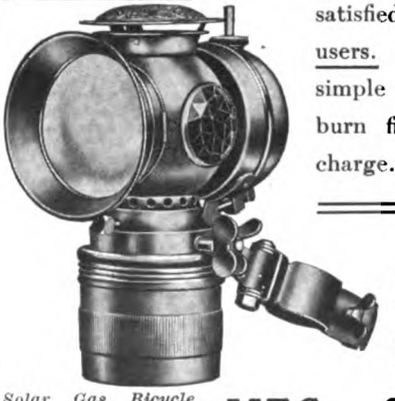

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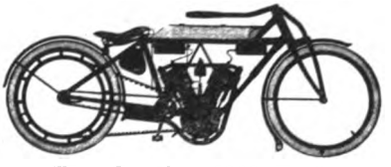

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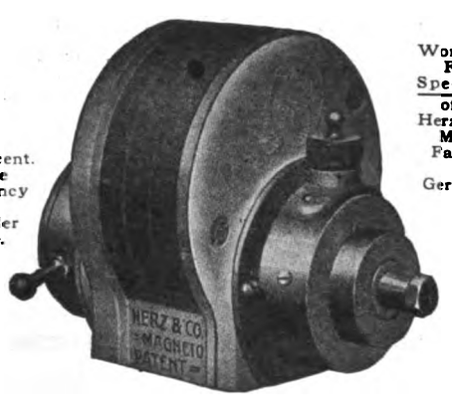

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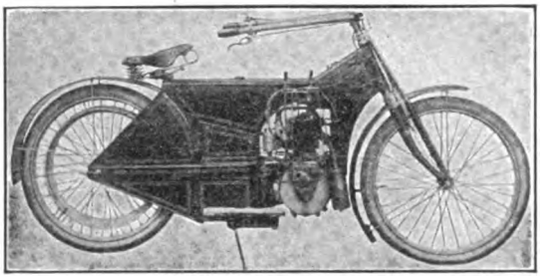

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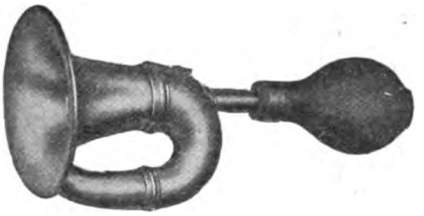

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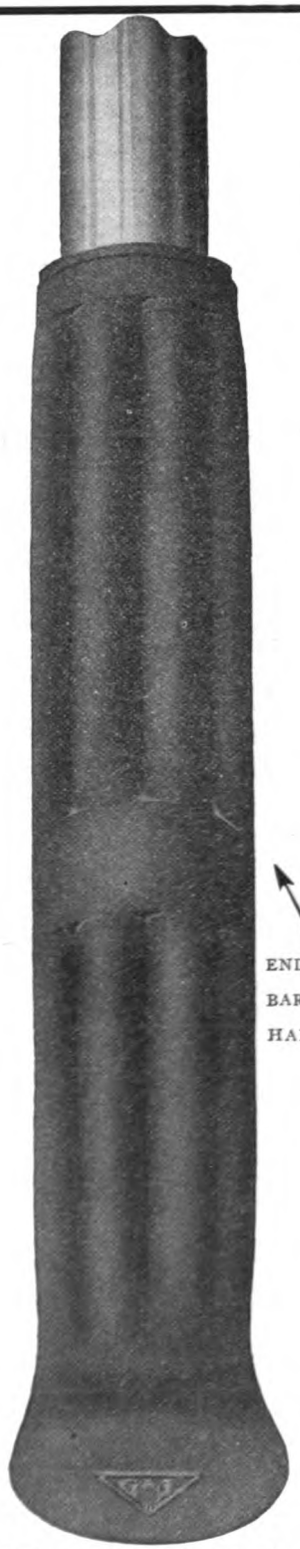

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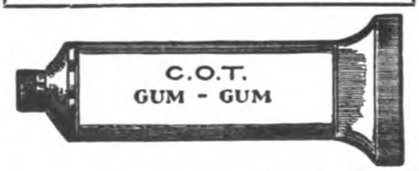

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American V.....	American Motorcycle Co.	Chicago	1	3	2⅞x3½	Auto.	Scheb.	V Belt	5-1	54	136	210
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Curtiss	Herring-Curtiss Co.....	Hammondsport, N.Y.	2	7	3½x3 11/16	Auto.	Curtiss	Belt	3-1	58	150	300
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Indian	Hendee Mfg. Co.....	Springfield, Mass...	1	3½	3½x3½	Mech.	Hed.	Belt	5-1	53	155	250
Indian	Hendee Mfg. Co.....	Springfield, Mass...	1	3½	3½x3½	Mech.	Hed.	Chain	5 1/16-1	53	155	225
Indian	Hendee Mfg. Co.....	Springfield, Mass...	1	3½	3½x3½	Mech.	Hed.	Belt	5-1	53	155	225
Indian	Hendee Mfg. Co.....	Springfield, Mass...	1	2½	2⅞x3½	Mech.	Hed.	Chain	6 1/16-1	53	155	225
Indian	Hendee Mfg. Co.....	Springfield, Mass...	1	2½	2⅞x3½	Mech.	Hed.	Chain	6 1/16-1	53	155	200
Light A.....	Merkel-Light Motor Co..	Pottstown, Pa.....	1	2½	2⅝x3½	Auto.	Thor.	Chain	6½-1	54	140	175
Light B.....	Merkel-Light Motor Co..	Pottstown, Pa.....	1	3½	2⅞x3½	Auto.	Thor.	Chain	6½-1	54	150	200
Magnet	Magnet Motor Co.....	Mich. Av., Chicago..	1	2½	70x70	Auto.	B. & B.	Belt	Var.	48	95	225
Magnet	Magnet Motor Co.....	Mich. Av., Chicago..	1	3½	84x82	Mech.	B. & B	Belt	Var.	55	165	260
Magnet	Magnet Motor Co.....	Mich. Av., Chicago..	1	4½	90x82	Mech.	B. & B.	Belt	Var.	55	170	270
Magnet	Magnet Motor Co.....	Mich. Av., Chicago..	2	5½	70x82	Mech.	B. & B.	Belt	Var.	56	185	335
Magnet	Magnet Motor Co.....	Mich. Av., Chicago..	2	7	76x90	Mech.	B. & B.	Belt	Var.	56	190	360
Manson	F-M-S Cycle Mfg. Co.†.	Chicago	1	3	2⅞x3½	Auto.	B.	Chain	Var.	52	145	225

†Fowler-Manson-Sherman Company.

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1909 MACHINE SPECIFICATIONS—Continued.

Name of Machine	Maker or Importer	Address	No. of Cyl.	H. P.	Bore and Stroke (Inch or MM.)	Inlet Valves	Carbureter	Transmission	Standard Gear	Wheel Base	Weight	Price
Merkel U.....	Merkel Light Motor Co..	Pottstown, Pa.....	1	3½	3¼x3¼	Auto.	Merkel	Belt	5-1	53	150	210
Merkel V.....	Merkel-Light Motor Co..	Pottstown, Pa.....	2	6½	3¼x3¼	Auto.	Merkel	Belt	3½-1	53	165	300
Merkel W.....	Merkel Light Motor Co..	Pottstown, Pa.....	1	3½	3¼x3¼	Auto.	Merkel	Belt	5-1	53	150	250
Midget Bi Car....	Walton Motor Co., Inc..	Lynbrook, L. I.....	1	3½	80x80	Mech.	Fafuir	Belt	4-1	56	140	275
Midget Bi Car....	Walton Motor Co., Inc..	Lynbrook, L. I.....	2	3½	75x75	Mech.	Amac.	Belt	4-1	60	190	335
Midget Bi Car....	Walton Motor Co., Inc..	Lynbrook, L. I.....	1	3½	80x80	Mech.	Amac.	Belt	4-1	56	190	350
Minerva	G. V. Lyons.....	B'way, nr. 87th, N. Y.	1	2¾	2¾x3	Mech.	G. & A.	Belt	5-1	57	150	250
Minerva	G. V. Lyons.....	B'way, nr. 87th, N. Y.	1	3½	3¼x3¼	Mech.	G. & A.	Belt	5-1	57	160	275
Minerva	G. V. Lyons.....	B'way, nr. 87th, N. Y.	2	5	2¾x3	Mech.	G. & A.	Belt	4½-1	57	175	310
Minerva	G. V. Lyons.....	B'way, nr. 87th, N. Y.	2	8	3¼x3½	Mech.	G. & A.	Belt	4-1	57	190	350
Minneapolis 2 sp'd	Minneapolis Motorcycle Co	Minneapolis	1	2¾	2⅝x3½	Auto.	Thor	Chain	5½-1, 11-1	56	145	250
Minneapolis 2 sp'd	Minneapolis Motorcycle Co	Minneapolis	1	3½	2¾x3½	Auto.	Thor	Chain	5-1, 10-1	58	150	275
Minneapolis 2-sp'd	Minneapolis Motorcycle Co	Minneapolis	2	6	2¾x3½	Auto.	Thor	Chain	4-1, 8-1	58	160	325
do direct drive	Minneapolis Motorcycle Co	Minneapolis	1	2¾	2⅝x3½	Auto.	Thor	Chain	6-1	54	135	200
do direct drive	Minneapolis Motorcycle Co	Minneapolis	1	2¾	2⅝x3½	Auto.	Thor	Belt	6-1	54	135	185
do direct drive	Minneapolis Motorcycle Co	Minneapolis	1	3½	2¾x3½	Auto.	Thor	Chain	5½-1	56	145	225
do direct drive	Minneapolis Motorcycle Co	Minneapolis	1	3½	2¾x3½	Auto.	Thor	Belt	5½-1	56	145	225
do direct drive	Minneapolis Motorcycle Co	Minneapolis	2	6	2¾x3½	Auto.	Thor	Chain	5-1	56	155	275
do direct drive	Minneapolis Motorcycle Co	Minneapolis	2	6	2¾x3½	Auto.	Thor	Belt	5-1	56	155	275
M M Roadster...	American Motor Co.....	Brockton, Mass.....	1	3	3¼x3½	Auto.	M. M.	Belt	5½-1	50	160	175
M M Special....	American Motor Co.....	Brockton, Mass.....	1	3½	3¼x3$^{46}/_{64}$	Auto.	M. M.	Belt	5-1	54	155	200
M M Mag. Spec..	American Motor Co.....	Brockton, Mass.....	1	3½	3¼x3$^{46}/_{64}$	Auto.	M. M.	Belt	5-1	54	150	225
M M Twin Rat...	American Motor Co.....	Brockton, Mass.....	2	6	3¼x3$^{46}/_{64}$	Auto.	M. M.	Belt	4-1	56	175	250
M M. Mag Twin..	American Motor Co.....	Brockton, Mass.....	2	7	3¼x3$^{46}/_{64}$	Auto.	M. M.	Belt	4-1	56	175	285
New Era	New Era Gas Eng. Co..	Dayton, O.....	1	3½	3¼x3¼	Auto.	B.	Gear	Var.	60	180	300
N S U F.A.M. Endurance	N. S. U. Motor Company.	306 W. 76th St., N.Y.	1	3	75x75	Mech.	N.S.U.	Belt	4¾-1	50	135	240
do.	N. S. U. Motor Company.	306 W. 76th St., N.Y.	1	3½	80x80	Mech.	N.S.U.	Belt	4½-1	50	145	250
do	N. S. U. Motor Company.	306 W. 76th St., N.Y.	1	3¾	82x86	Mech.	N.S.U.	Belt	4½-1	50	155	260
do.	N. S. U. Motor Company.	306 W. 76th St., N.Y.	2	6	75x90	Auto.	N.S.U.	Belt	3¾-1	52	170	330
N.S.U Touring..	N. S. U. Motor Company.	306 W. 76th St., N.Y.	1	3	75x75	Mech.	N.S.U.	Belt	4¾-1	53	150	225
N.S.U Touring..	N. S. U. Motor Company.	306 W. 76th St., N.Y.	1	3½	80x80	Mech.	N.S.U.	Belt	4½-1	53	155	235
N.S.U Touring..	N. S. U. Motor Company.	306 W. 76th St., N.Y.	1	3¾	82x86	Mech.	N.S.U.	Belt	4½-1	54	165	345
N.S.U Touring	N. S. U. Motor Company.	306 W. 76th St., N.Y.	2	4	64x85	Auto.	N.S.U.	Belt	4-1	56	175	295
N.S.U Touring...	N. S. U. Motor Company.	306 W. 76th St., N.Y.	2	5	75x75	Auto.	N.S.U.	Belt	3¾-1	58	180	305
N.S.U Touring..	N. S. U. Motor Company.	306 W. 76th St., N.Y.	2	6	75x90	Auto.	N.S.U.	Belt	3¾-1	59	185	315
" Twin roadster	N. S. U. Motor Company.	306 W. 76th St., N.Y.	2	3	52x74	Mech.	N.S.U.	Belt	5-1	52	100	275
" Single de luxe	N. S. U. Motor Company.	306 W. 76th St., N.Y.	1	4	82x105	Mech.	N.S.U.	Belt	4-1	53	180	300
" Twin de luxe	N. S. U. Motor Company.	306 W. 76th St., N.Y.	2	6	75x90	Mech.	N.S.U.	Belt	3¾-1	58	190	375
" Lightweight	N. S. U. Motor Company.	306 W. 76th St., N.Y.	1	1½	65x70	Auto.	N.S.U.	Belt	6-1	47	80	200
[illegible]	N. S. U. Motor Company.	306 W. 76th St., N.Y.	2	6	75x90	Mech.	N.S.U.	Belt	4-1	60	250	550
[illegible]	N. S. U. Motor Company.	306 W. 76th St., N.Y.	1	4	82x105	Mech.	N.S.U.	Belt	4-1	60	225	460
[illegible]	Pierce Cycle Co	Buffalo, N. Y.....	4	6	2⅜x2½	Mech.	Breeze	Shaft	5-1	60	190	350
[illegible]	Puch Import Co	Princeton, N. J.....	2	3½	2½x3	Auto.	Puch	Belt	Var.	54	100	280
[illegible]	Puch Import Co	Princeton, N. J.....	2	4	2½x3½	Auto.	Puch	Belt	Var.	56	145	300
[illegible]	Puch Import Co	Princeton, N. J.....	2	5	3 x3½	Auto.	Puch	Belt	Var.	56	145	320
[illegible]	Puch Import Co	Princeton, N. J.....	2	5	3 x3½	Auto.	Puch	Belt	Var.	57	200	340
[illegible]	Puch Import Co	Princeton, N. J.....	2	6	3½x3½	Auto.	Puch	Belt	Var.	57	200	360
[illegible]	Reliance Automobile Co	Owego, N. Y.....	1	2	2⅜x3	Suct.	Rel.	Belt	6-1	53	95	135
[illegible]	Reliance Automobile Co	Owego, N. Y.....	1	3	3 x3	Suct.	Rel.	Belt	4½-1	56	125	175
[illegible]	Reliance Automobile Co	Owego, N. Y.....	1	3½	3¼x3¼	Mech.	Rel.	Belt	4-1	56	140	200
[illegible]	Reliance Automobile Co	Owego, N. Y.....	2	4-5	2⅜x3	Suct.	Rel.	Belt	4-1	56	140	225
[illegible]	Reliance Automobile Co	Owego, N. Y.....	2	7	3¼x3¼	Mech.	Rel.	Belt	3½-1	56	160	250
[illegible]	[illegible]	[illegible], Mass....	1	4½	3¼x3 15	Mech.	B & B.	Belt	4$^{15}/_{16}$-1	56	190	265
[illegible]	[illegible]	[illegible], Pa.....	1	3½	2⅜x3½	Mech.	R-S.	Chain	5½-1	51½	140	185
[illegible]	[illegible]	[illegible], Pa.....	2	6	2⅜x3½	Mech.	R-S.	Chain	5½-1	74½	235	300
[illegible]	[illegible]	[illegible], Pa.....	2	6	2⅜x3½	Mech.	R-S.	Chain	5½-1	54½	168	250
[illegible]	[illegible]	[illegible], Pa.....	1	3½	2⅜x3½	Mech.	R-S.	Chain	5½-1	56	180	275
[illegible]	[illegible]	[illegible], Pa.....	1	3½	2⅜x3½	Mech.	R-S.	Choice	5½-1	56	140	210
[illegible]	[illegible]	[illegible], Pa.....	1	4	2⅜x3½	Mech.	R-S.	Choice	5½-1	56	148	260
[illegible]	[illegible]	[illegible], Pa.....	2	6	2⅜x3½	Mech.	R-S.	Choice	5½-1	56	168	275
[illegible]	[illegible]	[illegible], Pa.....	2	7	2⅜x3½	Mech.	R-S.	Choice	5½-1	56	175	325

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Simplex	Prospect Motor Co.....	1900 B'way, N. Y...	2	5	3 x3	Auto.	Simplex	Belt	4-1	56	155	325
Simplex	Prospect Motor Co.....	1900 B'way, N. Y....	2	7	3¼x3¾	Auto.	Simplex	Belt	2¾-1	56	160	350
Simplex	Prospect Motor Co.....	1900 B'way, N. Y...	1	3½	3¼x3¾	Auto.	Simplex	Belt	4½-1	56	140	275
Styria	Prospect Motor Co.....	1900 B'way, N. Y...	2	6	3¼x3½	Mech.	Spec.	Belt	3-1	58	185	300
Thiem	Thiem Mfg. Co.....	Minneapolis, Minn...	1	3	2¾x3¼	Mech.	Spec.	Belt	5½-1	56	130	175
Thiem	Thiem Mfg. Co.....	Minneapolis, Minn...	1	3	2¾x3¼	Auto.	Spec.	Belt	5⅛-1	56	134	200
Thiem	Thiem Mfg. Co.....	Minneapolis, Minn...	1	4	3 x3½	Auto.	Spec.	Belt	5-1	56	140	210
Thiem	Thiem Mfg. Co.....	Minneapolis, Minn...	1	4½	3¼x3½	Mech.	Spec.	Belt	4-1	56	145	225
Thiem	Thiem Mfg. Co.....	Minneapolis, Minn...	2	6	2¾x3¼	Mech.	Spec.	Belt	3½-1	56	160	250
Thor	Aurora Auto. Mach. Co..	Mich. av., Chicago..	1	2¼	2⅝x3¼	Auto.	Thor	Chain		52½	120	150
Thor	Aurora Auto. Mach. Co..	Mich. av., Chicago..	1	3	2¾x3¼	Auto.	Thor	Chain		53¼	140	200
Thor	Aurora Auto. Mach. Co..	Mich. av., Chicago..	1	3	2¾x3¼	Auto.	Thor	Chain		53¼	140	225
Thor	Aurora Auto. Mach. Co..	Mich. av., Chicago..	1	3¼	2¾x3¼	Auto.	Thor	Chain		53¼	140	250
Thor	Aurora Auto. Mach. Co..	Mich. av., Chicago..	2	6	2¾x3¼	Auto.	Thor	Belt		53¼	160	275
Thor	Aurora Auto. Mach. Co..	Mich. av., Chicago..	2	6	2¾x3¼	Auto.	Thor	Chain		53¼	160	300
Torpedo	Hornecker Mfg. Co.....	Geneseo, Ill.....	1	3½	2¾x3¼	Mech.	Mod. C.	Chain	Var.	51	145	190
Torpedo	Hornecker Mfg. Co.....	Geneseo, Ill.....	1	3½	2¾x3¼	Mech.	Mod. G.	Chain	Var.	51	155	250
Torpedo	Hornecker Mfg. Co.....	Geneseo, Ill.....	2	6	2¾x3¼	Mech.	Mod. F.	Chain	Var.	51	160	275
Vindec	Crownshield & Burlinson	109 E. 114th St., N.Y.	1	3½	3¼x3¾	Auto.	B. & B.	Belt	Var.	52	155	265
Wagner Tourist..	Wagner Motorcycle Co..	St. Paul, Minn.....	1	3½	3¼x3¼	Auto.	Breeze	Belt	4¾-1	53½	140	200
Wagner S.-Racer.	Wagner Motorcycle Co..	St. Paul, Minn.....	1	3½	3¼x3¼	Auto.	Breeze	Belt	4¾-1	53½	145	210
Wagner Ladies...	Wagner Motorcycle Co..	St. Paul, Minn.....	1	3½	3¼x3¼	Auto.	Breeze	Belt	4¾-1	53½	140	210
Yale	Consolidated Mfg. Co...	Toledo, O.....	1	3½	3⁹/₃₂x3¹¹/₁₆	Auto.	Breeze	Belt	5¼-1	53½	160	200
Yale	Consolidated Mfg. Co...	Toledo, O.....	1	3½	3⁹/₃₂x3¹¹/₁₆	Auto.	Breeze	Belt	5¼-1	53½	160	200
Yale	Consolidated Mfg. Co...	Toledo, O.....	1	3½	3⁹/₃₂x3¹¹/₁₆	Auto.	Breeze	Belt	5¼-1	53½	160	235

Curtiss side car, $50; magnetos, $25 extra.

The first four Indian models are of the magneto ignition type; the second four, battery.

The Bosch magneto is supplied for all Minneapolis models except the 2¾ H. P., at $25 extra.

Two-speed gear and free engine fitted to all N. S. U. models.

The Magnet prices include magneto ignition.

Merkel U and Light A and B., battery; Merkel V and W, magneto.

Yale No. 3 is equipped with magneto.

The F. N. has two-speed sliding gear and free engine clutch.

Reading-Standard: For car and fore chair attachments fitted to any of the above models; non-convertible delivery vehicles made up with any of the engines of the above indicated sizes.

The Simplex prices include magneto ignition; battery, $40 less.

Generally speaking the lower priced machines have battery ignition, the difference between this type and magneto being from $25 to $40.

EQUIPMENT: ACCESSORIES: SPECIALTIES

Ammeters.

Connecticut: United Mfrs., B'way and 76th St., N. Y.
Eclipse: Eldredge Electrical Mfg. Co., Springfield, Mass.
Pocket: Union Battery Company, Belleville, New Jersey.

Ball Bearings.

Annular: New Departure Mfg. Company, Bristol, Conn.
Two-In-One: New Departure Mfg. Co., Bristol, Conn.

Ball Retainers.

Stevens & Company, 99 Chambers Street, N. Y. City.
The Star Ball Retainer Company, Lancaster, Pennsylvania.

Batteries.

Ever Ready: American Electrical Novelty and Manufacturing Company, 304 Hudson St., New York City.
Eastern Carbon Company, The, Jersey City, New Jersey.
The National Carbon Company.....Cleveland, Ohio.
The Union Battery Company.....Belleville, N. J.

Battery Connectors.

Bull Dog: American Electrical Novelty and Manufacturing Company. 304 Hudson Street, New York City.
Lemke-Briggs: Lemke-Briggs Electric Company, 104 Wisconsin Street, Milwaukee, Wisconsin.

Battery Testers.

Bull Dog: American Electrical Novelty and Manufacturing Company, 304 Hudson Street, New York City.
Connecticut: United Mfrs., B'way and 76th St., N. Y.

Belt Fasteners.

Majestic Manufacturing Co., Worcester, Massachusetts.
Persons Manufacturing Co., Worcester, Massachusetts.
Prospect Motor Company, B'way and 63d St., N. Y. City.

Belt Hook.

Prospect Motor Company, 1900 B'way, New York City.

Bells.

New Departure Manufacturing Company, Bristol, Conn.

Belting.

Amer. Belting and Tanning Co., 242 Chestnut St., Phila.

Belt Link.

N. S. U. Motor Company, 206 West 76th St., N. Y. City.

Belt Punches.

Majestic Manufacturing Co., Worcester, Massachusetts.
N. S. U. Motor Company, 206 West 76th St., N. Y. City.
Prospect Motor Company, 1900 Broadway, N. Y. City.

Belts.

Challenge, V & Flat: S. F. Heath & Co., 286 Columbus Avenue, Boston, Massachusets.
Duke V: Dukelow Bros., 305 Hirsch Street, Chicago, Ill.
Flat and Round: Chicago Raw Hide Company, 75-77 Ohio Street, Chicago, Illinois.
G & J: The G & J Tire Company, Indianapolis, Ind.
Peerless Rubber V: Empire Tire Co., Trenton, N. J.
Persons: Persons Manufacturing Co, Worcester, Mass.
Rubber V: B. F. Goodrich Company.....Akron, Ohio.
Shamrock Gloria: N. S. U. Motor Co., 206 W. 76th St., N.Y.

Brakes.

Band Brake: Oberwegner Motor Company, Toledo, Ohio.
Duplex: Corbin Screw Corporation, New Britain, Conn.
Eclipse: Eclipse Machine Company, Elmira, New York.
Friction Brake: Royal Equipment Co., Bridgeport, Conn.
New Departure: New Departure Mfg. Co., Bristol, Conn.
Thor: Aurora Automatic Machine Company, 1307 Michigan Avenue, Chicago, Illinois.
Musselman: Miami Cycle Mfg. Co., Middletown, N. Y.

Brackets.

A & J Mfg. Company, 20 W. Randolph St., Chicago, Ill.

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Carbureter Plates.

Chandler & Co.....Springfield, Mass.

Carbureters.

Breeze: Breeze Carbureter Company, 266 Halsey Street, Newark, New Jersey.
Erie: Motorcycle Equipment Co., Hammondsport, N. Y.
Heitger: Heitger Carbureter Company, 208 West South Street, Indianapolis, Indiana.
Schebler: Wheeler & Schebler Co., Indianapolis, Ind.
Speed Changing Pulley Company.....Anderson, Indiana.

Cars, Delivery Attachments, etc.

Delivery Attachment: Fowler-Manson-Sherman Company, Chicago, Illinois.
Delivery Van: N. S. U. Motor Co., 206 W. 76th St., N. Y.
Delivery Van: Reading Standard Company, Reading, Pa.
General Line: Hendee Mfg. Company, Springfield, Mass.
Side Attachment: Fowler-Manson-Sherman Co., Chicago.
Side Car: Minneapolis Motorcycle Company, Minneapolis.

Castings: Bronze, Brass, Aluminum.

Clum & Atkinson Company.....Rochester, N. Y.
Manufacturers Foundry Co., Waterbury, Connecticut.
Oberdorfer Brass Company, M. L. Syracuse, New York.
Sayre Stamping Company, The, Sayre, Pennsylvania.
Standard Foundry Company.....Racine, Wisconsin

Cements.

Eagle Rubber Cement Company.....Trenton, N. J.
G & J Tire Company.....Indianapolis, Ind.
Goodyear Tire and Rubber Company.....Akron, Ohio.
Hartford Rubber Works Company, Hartford, Connecticut.
M & M Manufacturing Company.....Akron, Ohio.
Morgan & Wright.....Detroit, Michigan
National Cement Company.....Toledo, Ohio.

Chain Adjuster.

Stevens & Company, 99 Chambers Street, New York City.

Chain Guard.

Forsythe Manufacturing Company.....Buffalo, N. Y.

Chain Idler.

Baker & Company, 37 Warren Street, New York City.

Chains.

Diamond Chain & Mfg. Co., The, Indianapolis, Indiana.
Duckworth Chain & Manufacturing Co., Springfield, Mass.
Forsythe Manufacturing Company, Buffalo, New York.
Morse Chain Company, The.....Ithaca, N. Y.
Whitney Manufacturing Company, The, Hartford Conn.

Coils.

Connecticut: United Mfrs., Inc., 76th St. & B'way, N. Y.
Lemke-Briggs: Lemke-Briggs Electric Company, 104 Wisconsin Street, Milwaukee, Wisconsin.
Pfanstiehl: Pfanstiehl Elect. Laboratories, N. Chicago, Ill.
Pittsfield: Pittsfield Spark Coil Company, Dalton, Mass.
Herz & Co., Lafayette and Houston Streets, N. Y. City.
Motor Car Equipment Company, 1727 B'way, N. Y. City.
Splitdorf Co., C. F., Walton Ave. and 138th St., N. Y. City.

Crank Shafts.

Standard Connecting Rod Company, The, Beaver Falls, Pa.

Cyclometer.

Veeder Manufacturing Company, Hartford, Connecticut.

Forks.

Majestic Spring Fork: Majestic Mfg. Co., Worcester, Mass.
Sager Cushion Fork: J. Harry Sager, 265 South Street, Rochester, New York.

Forgings: Parts and Metal Fittings.

Billings & Spencer Company.....Hartford, Conn.
Crosby Company, The.....Buffalo, N. Y.
Eclipse Machine Company.....Elmira, N. Y.
Keim's Mill, Incorporated, John R., Buffalo, New York.
Nelson Manufacturing Company, A., Chicago, Illinois.
Standard Welding Company.....Cleveland, Ohio.
Worcester Pressed Steel Company, Worcester, Mass.

Gasoline Strainer.

Breeze Carbureter Co., 266 Halsey Street, Newark, N. J.

Gauges.

Motorcycle Equipment Company, Hammondsport, N. Y.

Generator.

Motorcycle Equipment Company, Hammondsport, N. Y.

Gears: Two-Speed.

B & C: Bushnell & Cannon, 1268 E. 80th Pl., Cleveland, O.
Lewis: Rex Tool and Manufacturing Company, Chicago.
N. S. U.: N. S. U. Motor Co., 206 West 76th Street, N. Y.

Gloves: Gauntlets.

Hansen: O. C. Hansen Manufacturing Company, 337 East Water Street, Milwaukee, Wisconsin.
Rist-Fit: Morrison-Ricker Mfg. Company, Grinnell, Iowa.

Goggles.

New Four-Way: Motor Car Equip. Co., 1727 B'way, N. Y.

Grips.

Empire: Empire Tire Company.....Trenton, N. J.
Leather: Wolverine Leather Goods Co., Detroit, Mich.
Rough Rider: Hartford Rubber Works Co., Hartford Conn.
The B. F. Goodrich Company.....Akron, Ohio.
Rough Rider: Morgan & Wright, Detroit, Michigan.
Rough Rider: G & J Tire Company, Indianapolis, Indiana.
Sponge Rubber: Standard Leather Washer Manufacturing Company, Newark, New Jersey.
Rough Rider: B. F. Goodrich, Company, Akron, Ohio

Handle Bars.

C. A. Spring Handle Bar Co., 332 Seventh Ave., N. Y. City.
Chicago Handle Bar Company, The.....Shelby, Ohio
Kelly Handle Bar Company, The.....Cleveland, Ohio.

Hangers.

A & J Mfg. Company, 20 W. Randolph Street, Chicago, Ill.

Horns.

Blanchard: Motor Car Equip. Co., 1727 B'way, N. Y. City.
Electric: F. B. Widmayer Co., 2312 B'way, N. Y. City.
Erie: Motorcycle Equipment Co., Hammondsport, N. Y.
Baker & Co., 37 Warren Street.....New York City.
Ovington Motor Company, 2234 Broadway, N. Y. City.
Post & Lester Manufacturing Company, Hartford Conn.
Riley-Klotz Mfg. Co., 17-19 Mulberry St., Newark, N. J.
Stevens & Company, 99 Chambers Street, New York City.

Hubs.

Aurora Automatic Mach. Co., 1307 Michigan Ave., Chicago.
Corbin Screw Corporation.....New Britain, Conn.
Eclipse Machine Company.....Elmira, N. Y.
Keller & Risque.....St. Paul, Minn.
New Departure Manufacturing Company, Bristol, Conn.

Ignition Cable.

Empire Tire Co., The.....Trenton, N. J.

Lamps—Generators.

Imported Lamps: Motor Car Equip. Co., 1727 B'way, N.Y.
Neverout, Gas & Oil: Rose Mfg. Co., 933 Arch St., Phila.
Ovico, Imported: Ovington Motor Co., 2234 B'way, N. Y.
Solar, Gas & Oil: Badger Brass Mfg. Co., Kenosha, Wis.
Hine-Watt Company, 60 Wabash Avenue, Chicago, Ill.

Leggings.

Gilbert Manufacturing Company, New Haven, Connecticut.
New York Sporting Goods Company, 17 Warren St., N. Y.
Post & Lester Manufacturing Company, Hartford, Conn.

Lock and Trouser Guard.

Vim Cycle & Hardware Co., 228 Broadway, Buffalo, N. Y.

Lubricants, Oils, etc.

Columbia Lubricants Co., 118 Broad Street, N. Y. City.
Dixon Crucible Company, Jos., Jersey City, New Jersey.
Havoline Oil Company, 80 Broad Street, New York City.
Haws, Geo. A.....73 Pine Street, N. Y. City.
Harris Oil Company.....Providence, Rhode Island.
Sheppard, W. S., 21 Lawrence Street, Newark, New Jersey.
Three-In-One Oil Company, 42 Broadway, New York City.
Vacuum Oil Company.....Rochester, N. Y.

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Luggage Carriers.

Bradford Luggage Carrier Company, Wilmington, Del.
Dow Wire and Iron Works, The, Louisville, Kentucky.
Majestic Manufacturing Company, Worcester, Mass.
Miami Cycle and Manufacturing Co., Middletown, Ohio.
Motorcycle Specialty Co., 258 Columbus Ave., Boston.
Ovington Motor Company, 2234 Broadway, N. Y. City.
Widmayer Co., F. B., 2312 Broadway, New York City.

Magnetos.

Bosch Magneto Company, 223-245 W. 46th St., N. Y. City.
Herz & Company, Lafayette and Houston Sts., N. Y. City.
Pittsfield Spark Coil Company.....Dalton, Mass.

Motors.

Aurora Automatic Machinery Co., Aurora, Ill. (Thor).
Clement Motor Company, 1900 Broadway, N. Y. City.
George W. Lyon, 170 East 33rd Street, Chicago, Illinois.
Motorcycle Equipment Co., Hammondsport, N. Y. (Erie).
Peugeot Freres, 232 W. 58th Street, N. Y. City (Peugeot).

Mud Guards.

Forsythe Manufacturing Company, Buffalo, New York.
Standard Welding Company.....Cleveland, Ohio.

Name Plates.

Chandler & Company.....Springfield, Mass.

Oil Guns.

Randall-Faichney Company, Keany Square Bldg., Boston.

Parts, Fittings.

Corbin Screw Corporation, New Britain, Connecticut.
Crosby Company, The.....Buffalo, New York.
Eclipse Machine Company.....Elmira, N. Y.
International Stamping Co., 1331 Colorado Ave., Chicago.
Keim's Mills, Incorporated, John R., Buffalo, New York.
National Acme Manufacturing Company, Cleveland, Ohio.
Nelson Mfg. Company, A., 83 W. Randolph St., Chicago.
Standard Company, The.....Torrington, Conn.
Standard Welding Company.....Cleveland, Ohio.
Stevens & Company, 99 Chambers Street, New York City.
Worcester Pressed Steel Company, Worcester, Mass.

Pedals.

Emergency: F. B. Widmayer Co., 2312 B'way, N. Y. City.
Ovico: Ovington Motor Company, 2234 B'way, N. Y.
Repair Pedal: H. T. Adams Co., 6846 S. Park Ave. Chicago.
Forsythe Manufacturing Company, Buffalo, New York.
Hendee Manufacturing Company, Springfield, Mass.
Standard Company, The.....Torrington, Conn.

Pulley Rims.

Persons Manufacturing Company, Worcester, Mass.
Standard Welding Company.....Cleveland, Ohio.

Pulleys.

Brown's Adjustable: Walton Motor Co., Lynbrook, L. I.
Hilaman Dependable: Hilaman Motor Company, Moorestown, New Jersey.

Pump Connection.

Ovington Motor Company, 2234 Broadway, N. Y. City.

Pumps.

Austin & Company, H. K.....Reading, Mass.
Bridgeport Brass Company.....Bridgeport, Conn.
Ovington Motor Company, 2234 Broadway, N. Y. City.
Stevens & Company, 99 Chambers Street, New York City.

Rims.

Clincher: G & J Tire Company, Indianapolis, Indiana.
M & W Single: Morgan & Wright, Detroit, Michigan.
Steel: Standard Welding Company, Cleveland, Ohio.
Wood: The Mutual Rim Company, Onaway, Michigan.

Saddles, Motor Seats.

American: Persons Manufacturing Co., Worcester, Mass.
Brooks: Hendee Manufacturing Co., Springfield, Mass.
Cavalry: Mesinger Mfg. Co., 1801 1st Ave., N. Y. City.
Champion: Persons Mfg. Company, Worcester, Mass.
Corson's Vibrationless: Motorcycle Specialty Co., Boston.
Eagle: Troxel Manufacturing Company, Elyria, Ohio.
Mesinger: Mesinger Mfg. Co., 1801 1st Ave., N. Y. City.
Persons Motor Seat: Persons Mfg. Co., Worcester, Mass.
Standard: Mesinger Mfg. Co., 1801 1st Ave., N. Y. City.

Seat Posts.

Standard Welding Company, The, Cleveland, Ohio.
Shock Absorbing: C. Magnus Anderson, Batavia, N. Y.

Soap.

Hasler Soap: Hastings & Miller, 118 Nassau St., N. Y.

Spark Plugs.

Anderson: W. E. Hutton, 350 Fulton St., Brooklyn, N. Y.
Breech Block: Standard Co., The., Torrington, Conn.
Easy Starting: N. S. U. Motor Co., 206 W. 76th St., N. Y.
Excelsior: Excelsior Supply Company, 233 Randolph Street, Chicago, Illinois.
French Mica: Motor Car Equip. Co., 1727 B'way, N. Y.
Herz: Herz & Co., Lafayette and Houston Sts., N. Y.
Indian: Hendee Manufacturing Co., Springfield, Mass.
Lemke-Briggs: Lemke-Briggs Electric Company, 104 Wisconsin Street, Milwaukee, Wisconsin.
Monarch: Benford Mfg. Co., E. M., Mt. Vernon, N. Y.
Neverslip: Post & Lester Mfg. Co., Hartford, Conn.
Pittsfield: Pittsfield Spark Coil Company, Dalton, Mass.
Red Head: Emil Grossman Co., 232 W. 58th St., N. Y.
Reliance: Jeffrey-DeWitt Co., 230 High St., Newark, N. J.
Sta-Rite: Hardy & Co., R. E., 201 37th St., Brooklyn, N. Y.
Spitfire: Mosler & Co., A. R., 163 W. 29th St., N. Y. City.
Splitdorf: Splitdorf Company, C. F., 138th Street and Walton Avenue, New York City.
Vanguard: Vanguard Manufacturing Company, Joliet, Ill.

Speedometers.

Auto-meter: Warner Instrument Company, Beloit, Wis.
Bullard: Bullard Specialty Company, Springfield, Mass.
Jones: United Mfrs. Inc., 76th St. and B'way, N. Y. City.
Standard: Parker Mfg. Co., Clifton St., Boston, Mass.

Sprockets.

Hydraulic Pressed Steel Company.....Cleveland, Ohio.
Keim's Mills, Inc., J. R.....Buffalo, N. Y.
Parrish & Bingham Company.....Cleveland, Ohio.

Stands.

Oberwegner: Oberwegner Motor Company, Toledo, Ohio.
Ovico: Ovington Motor Company, 2234 Broadway, N. Y.
Quick Action: Adams Company, H. T., 6846 South Park Avenue, Chicago, Illinois.
Universal: Majestic Mfg. Company, Worcester, Mass.
Widmayer: Widmayer Co., F. B., 2312 Broadway, N. Y.

Sundries, Supplies, General Line.

Baker & Co., F. A., 37 Warren Street, New York City.
Boston Cycle & Sundry Company, Boston, Massachusets.
Economy Cycle and Supply Company, 57 Grand River Avenue, Detroit, Michigan.
Excelsior Supply Company, 233 Randolph Street, Chicago.
Grady & Company, J. W., Worcester, Massachusets.
Hub Cycle Company, 285 Hanover Street, Boston, Mass.
Leng's Son & Co., J. S., 33 Warren Street, New York City.
Miller, Charles E., 97 Reade Street, New York City.
Motorcycle Equipment Company, Hammondsport, N. Y.
Motorcycle Specialty Company, Boston, Massachusets.
Mueller & Co., L. J., 6417 Woodland Ave., Cleveland, O.
New York Sporting Goods Co., 17 Warren Street, N. Y.
Ovington Motor Company, 2234 Broadway, N. Y. City.
Post & Lester Manufacturing Company, Hartford, Conn.
Roby Company, Sidney B.....Rochester, N. Y.
Strauss & Son, Joseph .....Buffalo, N. Y.
Swenson, B. A.....Providence, R. I.
Vim Cycle & Hardware Co., 228 Broadway, Buffalo, N. Y.
Widmayer Company, F. B., 2312 Broadway, N. Y. City.

Switch.

Pittsfield Spark Coil Company.....Dalton, Mass.

Tandem Attachment.

Hornecker Motor Manufacturing Company, Geneseo, Ill.

Tanks, Gasoline and Oil.

Avery Portable Lighting Company, Milwaukee, Wisconsin.
Bowser, S. F., Incorporated.....Fort Wayne, Ind.
Janney, Steinmetz & Company, Philadelphia, Pennsylvania.
Prest-O-Lite Manufacturing Company, Indianapolis, Ind.

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Timers.

Mosler & Co., A. R., 163 West 29th Street, New York City.
Pittsfield Spark Coil Company.....Dalton, Mass.

Tires.

Diamond Rubber Company.....Akron, Ohio.
Empire Tire Company.....Trenton, N. J.
Fisk Rubber Company.....Chicopee Falls, Mass.
G & J Tire Company.....Indianapolis, Ind.
Goodrich Company, B. F.....Akron, Ohio.
Goodyear Tire and Rubber Company.....Akron, Ohio.
Hartford Rubber Works Co.....Hartford, Conn.
Kokomo Rubber Company.....Kokomo, Ind.
Lockport Rubber Works.....Lockport, N. Y.
Morgan & Wright.....Detroit, Mich.
N. S. U. Motor Company, 206 West 76th Street, N. Y.
Pennsylvania Rubber Company.....Jeanette, Pa.

Tire Parts, Sundries, etc.

Gum Gum: C. O. Tingley & Company, Rahway, N. J.
Inner Cases: Atlas Rubber Company, Buffalo, New York.
Inner Tubes.....Made by all tire manufacturers.
Neverleak: Buffalo Specialty Company, Buffalo, N. Y.
Non-Skid Bands: N. S. U. Motor Company, N. Y. City.
Permanit: Adolph Karl Company, 239 Washington Street, Newark, New Jersey.
Puncture Proof Band: N. S. U. Motor Co., N. Y. City.
Repair Bands: H. & F. Mesinger Manufacturing Company, 1801 1st Avenue, New York City.
Repair Kit: Diamond Rubber Company, Akron, Ohio.
Repair Kit: Empire Tire Company, Trenton, New Jersey
Repair Kit: Hartford Rubber Works, Hartford, Conn.
Repair Kit: G & J Tire Company, Indianapolis, Indiana.
Repair Kit: M & M Manufacturing Company, Akron, O.
Repair Kit: Morgan & Wright.....Detroit, Mich.
Repair Kit: National Cement Company, Toledo, Ohio.
Repair Kit: Neal & Co., F. M., 1048 East Main Street, Bridgeport, Connecticut.
Repair Kit: Stevens & Co., 99 Chambers Street, N. Y.
Tire Protector: Empire Tire Company, Trenton, N. J.
Tire Remover: Ovington Motor Co., 2234 B'way, N. Y.
Tiresele: Tiresele Company, 53 Bank St., Newark, N. J.
Tire Sleeves.....Made by all tire manufacturers.

Tool Bags.

Majestic Manufacturing Company, Worcester, Mass.
Mesinger Mfg. Co., H. F., 1801 1st Avenue, N. Y. City.
Motorcycle Specialty Co., 258 Columbus Ave., Boston.
Persons Manufacturing Company, Worcester, Mass.
Troxel Manufacturing Company.....Elyria, Ohio.
Wolverine Leather Goods Company, Detroit, Michigan.

Tool Kits.

Persons Manufacturing Company, Worcester, Mass.

Trouser Guards.

Bevin Bros. Manufacturing Company, Easthampton, Conn.
Vim Cycle & Hardware Company, Buffalo, New York.

Tubing, Steel.

National Tube Company.....Pittsburg, Pa.
Frame and Handle Bar: Standard Welding Company, Cleveland, Ohio.

Vulcanizer.

Cox, David H.....Rahway, N. J.

Valves.

Electric Welding Products Company, Cleveland, Ohio.
Schrader & Sons, A., 28 Rose Street, New York City.

Wrenches.

B & S: Billings & Spencer Company, Hartford, Conn.
Coe: Coe Wrench Company, Worcester, Massachusets.
Dudley: Stevens & Company, 99 Chambers Street, N. Y.
Perfection: Perfection Wrench Co., Portchester, N. Y.
Sterling: Frank Mossberg Company, Attleboro, Mass.
Yemco: Smith & Hemenway Co., 108 Duane St., N. Y.

Whistles.

Exhaust: Oberwegner Motor Company, Toledo, Ohio.

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MOTORCYCLE ILLUSTRATED

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F. A. M. NEEDS REORGANIZATION

IN MEMBERSHIP IT IS NOT KEEPING PACE WITH THE GROWTH OF MOTORCYCLING. NEEDS A PAID SECRETARY. TREASURY WEAK. REVENUES UNWISELY DIVIDED. OFFICES SHOULD BE WIDELY DISTRIBUTED. COMPETITION RULES NEED REVISION

IT seems highly probable that the F. A. M. will be more or less reorganized at the Annual Meet to be held at Indianapolis this summer. It certainly needs considerable remodeling. Though motorcycling is rapidly expanding the F. A. M. does not keep pace with that expansion. Its membership has advanced feebly. Its treasury is weak; there is only about $400 in the national strong box. Its revenues are unwisely divided. The geographical districts profit at the expense of the national body. It is the rule that any national organization is as strong as its treasury. Judged by this tradition the F. A. M. is decidedly weak. For instance, the Eastern District has about $500 in bank; other districts have fairly good sums, while, as stated, the national treasurer has only $400, and, for lack of money, nothing can be done to vitalize the work of the organization. It would cost money to get new members. But there is not a dollar to spare for printing, postage or intelligent labor. Here and there some enthusiastic individual puts his shoulder to the wheel, and any membership increase that may be shown in the forthcoming annual report of the secretary will be almost entirely due to that sort of spasmodic, individual work, rather than to consistent, intelligent, national effort.

The work of the secretary is poorly done. To take care of his F. A. M. interests the present secretary must, from time to time, snatch a few odd moments from his own personal, bread-winning enterprise. This plan spells delinquency, and this delinquency is generally known as a fact. The F. A. M. should have a paid secretary, or if not, then the secretary should be given money enough to hire an intelligent stenographer.

The membership roll of the F. A. M. is shrouded in impenetrable mystery. The chief ornament of a harem is not more carefully guarded. The president of the F. A. M. has never seen it. The treasurer of the F. A. M. is equally in the dark. Not knowing who *are* members of the organization how can anyone reach out or work for *new* members?

Why all this Mystery?

It is to be hoped, too, that the treasurer will be bonded and that the secretary will be bonded; and further, that specific banks of deposit shall be designated for these officials. It might also be advisable to adopt the countersign principle on all checks drawn by either of them. This is the wise plan, the only plan, the usual plan in all mutual benefit organizations. The next treasurer and the next secretary should be among the first to work for this sort of self-protection. True it is that the F. A. M. treasury is hardly worth looting now, either directly or indirectly; but the day will come when it may be. In any event, all mutual benefit organizations throw protection around their revenues, and it would be well for the F. A. M. to adopt a plan which would answer not for a day but for a decade.

Another thing. The government and the direction of the Federation of American Motorcyclists and the execution of its most important policies are altogether too much in the hands of Eastern people. The cause of this is well known. In the early days the men who took the most interest in motorcycling and in the Federation of American Motorcyclists were, to a large extent, New York men. It was therefore quite natural, that, in time, they should become officers and important workers in the F. A. M. interests. But this condition is no longer the case. The F. A. M. is now fairly well spread throughout all the states, and in each of the big cities, as Boston, Philadelphia, Chicago, Indianapolis, etc., it has developed earnest workers, men of ability and energy, men who are willing to devote their time and brains to develop the F. A. M. along broad lines. At the Indianapolis Meet it is to be hoped that the Eastern tradition will be shattered. It will be a distinct advance if the officers of the F. A. M. are distributed more than they are at present. It will be wiser, too, if the committees are selected from widely different points, so that all sections will have a voice in the sailing of the ship.

In the minds of many who have made a study of the matter the competition rules invite revision. True it is that they represent several years of experience and they were written with much labor. The somewhat familiar cry that they were framed to benefit any particular interest or interests is baseless. Honesty, at least, is as the root of them. But rules for a sport, as for most things, must be occasionally overhauled and, because of certain conditions which now obtain, the time seems ripe to alter the F. A. M. rules so that they will reflect present requirements.

There is no room to go into details or into exhaustive debate on white paper. The mills would have to work overtime to supply sufficient stock. But the following subjects might be thrown into the crucible of discussion and threshed out to a finish: Complete protection of records,

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so that all accepted records would be bomb proof. No sanction for unsafe tracks. Report of every meet to be filed with the Competition Committee, so that a proper record of the sport may be kept.

Classification: At present it is amateur and professional, the man who doesn't ride for money and the man who does. This distinction has been fruitful of battle and has been pawed over ever since 1850, when the English first designated an amateur as *a man who did not work,* a gentleman, forsooth. Of course, that antique British classification has long since drifted away from the class spirit which brought it into being. For nowadays, even in England, to work is no disgrace, and if a lord chooses to compete on the race track he must run his chance of bucking up against even a butcher boy.

However, let us dismiss this half a century old wrangle and focus the discussion on motorcycle conditions as they obtain to-day on the race track and in other contests. We find the amateur subsidized by trade interests. We find a scant half dozen men in the professional class. We find that the eyesore in motorcycle competitions is the *trade rider.* The amateur asks: "Why make me compete with Jones? True, he doesn't ride for cash prizes; but he works for Smith & Company, motorcycle manufacturers. That gives him many advantages over me; opportunities for constant practice; a corp of mechanics always on hand; a machine put into and kept in perfect condition; also a dozen and one other advantages, some great and some little, the sum total of all making it hopeless for me to compete with him."

But what can he do? Jones doesn't ride for purses and therefore is not an out-and-out professional. It is *morally* certain that he is paid to ride, paid his salary, paid expenses and occasionally an extra bit when he makes a particularly fine showing or fractures the record slate. But these things cannot be proven, and of course the Competition Committee cannot act on *suspicion.* So Jones continues to remain an eyesore to the Competition Committee, to the simon pure amateur and to the writers of the press. Everyone knows that he can't travel a thousand miles to ride for a $25 cup. But nothing can be done; there are no facts to work on.

The problem of classification is already being discussed in various quarters. Taking into account all the possibilities it may be stated that there are five different sorts of classifications which might be worked out. They are as follows:

Scheme 1. Present two classes, Amateur and Professional.

Scheme 2. Private Owner and Trade Rider.

Scheme 3. Amateur, Trade Rider and Professional.

Scheme 4. Private Owner, Amateur Trade Rider, Professional Trade Rider and Professional.

Scheme 5. Private Owner, Trade Rider and Professional.

The five plans discussed and scheduled here represent practically all the possibilities in connection with a proper classification of motorcycle racing men.

Scheme No. 4 is, of course, the ideal classification. It provides for the private owner, amateur trade rider, professional trade rider and the professional. This class fits the conditions as they exist. These conditions are as follows:

The Private Owner Class: This class owns its own machine and races at its own expense; its members don't race for cash prizes; don't receive any money or profit of any sort whatsoever from racing and are in no way whatsoever connected with the trade.

The amateur trade riders would include those who are connected with the trade, but who are not fast enough, or clever enough, or skillful enough to have any manufacturer pay their expenses or any other money for racing. These are what might be called "the dubs" of the trade rider class.

The professional trade rider class would include those who are subsidized by makers and paid both expenses and other money to race on various tracks all over the country.

The fourth class, the professional, is obvious. These are men who honestly race for cash prizes.

In considering this four-class proposition it must be remembered that the chairman of the Competition Committee is not a paid official. He has no money and no force of Pinkerton men behind him to carry out the rules. To properly work this four-class scheme would require a paid chairman, and a highly paid one at that, supplemented with much costly machinery. Therefore, the thing which will most appeal to any reformer is, what is the simplest and most practical classification, taking into account the present conditions?

Many believe that the present plan, Amateur and Professional, covers the point. But suppose a firm engages a man to sell motorcycles, and, instead of selling them, we find him competing at meets throughout the country. The rider, of course, swears that he happened to drift into the town to sell machines and naturally entered the competition. It is a moral certainty that he was *shipped* there at the expense of his concern, and that he is riding for money; but these facts cannot be proven. This is the greatest source of worriment in the present classification.

Scheme 3. In this class we have three divisions, amateurs, trade riders and professionals. The amateur is one who receives no money of any kind whatsoever for competition. The trade rider is one who is engaged in the trade in any capacity whatsoever, and he may accept his expenses or any other form of compensation, except that under no circumstances shall he ride for purses. The third class is the out-and-out professional.

Under this classification, the amateur who could be proven to have accepted money or any compensation from any person in the trade would be shifted into the trade rider class. Competitors in the trade rider class who could be proven to have raced for cash prizes could be shifted into the professional class. Thus the trade rider class would draw in the mercenary and ambitious amateur, and the professional class would afford an asylum for the trade rider who accepted appearance money or raced for a purse. This definition is easily workable. This is a classification the public would easily understand. First, then, would be the genuine amateur, who would race solely for sport alone. The trade rider would classify himself. No trial would be necessary, no suspicion need exist; the mere fact of his being employed by a concern would classify him. It would not therefore be necessary to ask Smith, the motorcycle salesman, who lives in New York, why and how he was racing in Minneapolis. The thing would work automatically. As a "trade rider" he could ride when and where he liked. The professional class needs no discussion. That is a matter of optical proof.

Scheme No. 2. Men who have carefully considered the subject believe that two classes would solve the problem. These two classes they would call the Private Owner Class and the Trade Rider Class. Their arguments run as follows: The amateur is a delusion so far as first-class racing men are concerned. In every sport the amateur has come to mean the slow man, the man of poor ability. Every crackajack in the amateur class, with very few exceptions, is subsidized or receives profit in some form. When a man gets good he is necessarily *approached* by some person and forthwith ceases to be an amateur. They are therefore the most contemptible of sportsmen. They pose as amateurs, loving the prestige of the name, but at the same time they secretly accept compensation. It is believed that this definition gives a man an opportunity to become the lowest and most reprehensible type of sportsman, a goat masquerading among the sheep. One of the reasons which works to incite these amateurs to remain amateurs, after they fail to be such, is the stigma which has always been attached to the term professional.

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But this stigma may never be removed; for it is certain that the man who engages in the sport for money does degenerate. There are a few exceptions, but degeneration is the rule. It is therefore held that if there were a class the members of which were known to take money, but which did not carry with it the stigma of "professional," the amateur would not be so loath to uncloak and enter the class to which he properly belonged.

To meet this condition they would have only two classes, the private owner and the trade rider class. The private owner must own his own machine and must not accept money or other emolument for racing. The trade rider class can accept expenses, salary or gifts and even ride for cash prizes.

The chief argument in favor of the trade rider being allowed to ride for cash prizes is this: The man who rides for a firm and accepts a salary is exactly in the same class *morally* as the man who rides for a purse. It is only a difference of *employers*. The manufacturer hires a man to ride for a day, a week or a season. The promoter of a meet, by offering a purse, hires him to ride for an event or for an afternoon. There is no difference between the two propositions; and therefore, as the competition committee has no elaborate machinery at its command for running down the renegades, they would simplify the whole proposition by deciding on two classes, the private owner and the trade rider. It is, of course, the easiest, most practical plan.

Necessarily the above is only a brief, inadequate and very rough synopsis. The present competition rules have been the result of years of experience. Probably ten million words have been spent on their construction and, of course, it is obvious that ten million cannot be printed here. It is also equally certain that even the gist of the thousand and one arguments that could be advanced for and against these propositions could not be even outlined here. All the above are hooks on which to hang argument, finger posts pointing to several possible solutions—or to no solution.

Get busy, all ye scribes and cranks.

The writer of the above, a newcomer in this field, would not care to play the role of bull in a china shop. He knows that the foundation of the F. A. M. was laid, stone by stone, laboriously, too, by the early men, pioneers, unpaid, disinterested enthusiasts. And these foundations will endure. But without doubt the superstructure needs more or less remodeling; and Indianapolis would seem to afford a fine opportunity for the work.

PLANS FOR PROPOSED CHICAGO FIVE-DAY RELIABILITY RUN

ONE of the features of the season's campaign outlined by the Chicago Club is to be a five-day reliability run during the last week in June. Rules for the event are now being formulated by C. H. Lang, Frederic B. Hart, John T. Fisher, C. A. Anderson and other members of the contest committee of the organization, and although they have not yet been approved, it is known that the contest will be a most severe test for the two-wheel machines.

All of the mechanical parts of the machines will be sealed for forty-eight hours before the start of the contest and severe penalties will be imposed for any infractions of the rules. The contest is not to be a speed test in any sense, but the rules are so planned that the reliability of all competing machines will be severely tested.

Entries will be made in teams, each team representing an individual make of motorcycle. Among the machines which doubtless will compete may be mentioned the Merkel, Harley-Davidson, Indian, Thor, Excelsior, American, Pierce, Greyhound, Meteor-Peugeot, New Era and M. M.

The plan of the committee is to have the contestants return each night to Chicago after a run of 150 miles or more, each day's run being in a different direction, similar to the plan of last year's automobile reliability contest of the Chicago Motor Club.

A. W. GREEN WINS 100-MILE HANDICAP RUN IN CALIFORNIA

THE San Francisco Motorcycle Club held a handicap run over the San Francisco bay route on April 24th (Sunday). Many of the starters did not know where the two checking stations were, and A. W. Green, who won the cup, failed to check in at San Jose, although he had plenty of time to do so. A. Chelini was the only member to start scratch, one hour and ten minutes behind the first starter. Green made the run in three hours; he rode a single cylinder Thor. Chelini made the distance, 100 miles, in 2 hours and 53 minutes, although he lost at least 20 minutes by taking a very bad fall and bending his forks, which had to be straightened on the road before he could finish the run. P. L. Peterson, the secretary of the club, was rather seriously injured while endeavoring to pass between two automobiles. He was immediately taken to the Palo Alto hospital where he is improving. His machine was wrecked.

The members finishing the run were: A. W. Green (Thor), first; A. Chelini (Thor), second; H. Koschnetzsky (Thor), third; Dr. Letcher (Indian), fourth. E. E. Stone also made the run in fast time, but owing to the fact that he did not check in at either station, was disqualified.

ATTRACTIVE LIST OF EVENTS FOR POINT BREEZE RACES ON THE 22D

A SERIES of races will be conducted by the Philadelphia Motorcycle Trade Association on the Point Breeze one-mile track, Philadelphia, on Saturday, May 22, at 2 P. M., under the rules and with the sanction of the F. A. M. The list of events follows: 3-mile novice, 30½ cubic inch piston displacement: first prize, silver medal; second prize, bronze medal. 5-mile P. M. C. championship (members only) single cylinders; silver medal. 5-mile P. M. C. championship (members only), double cylinders: silver medal. 5-mile, private owners, single cylinders, not over 30½ cubic inch piston displacement; first prize, standard speedometer; second prize, Columbia gas lamp; third prize, Person's motor seat. 10-mile open, 30½ cubic inch piston displacement: first prize, diamond scarf-pin; second prize, opal scarf-pin. 25-mile open: first prize, solid gold 14k. watch; second prize, gold watch fob; third prize, pair gold cuff-links. Best time for 1 mile open: if track record is lowered, prize, a stop watch. Entrance fee, 50 cents for each event, Nos. 1, 2, 3, 4, 5. $1.00 for event No. 6. Entries close 6 P. M. May 19, 1909, with W. G. Rhodes, 19th and Oxford streets, Philadelphia, Pa.

A 50-MILE road race is contemplated by La Salle, Ill., riders, the route to be from La Salle to Ottawa, Lowell, Tonica and return.

TWO hundred miles daily for ten days, with the route laid between Chicago and South Bend, is the motorcycle undertaking planned by George Lyon.

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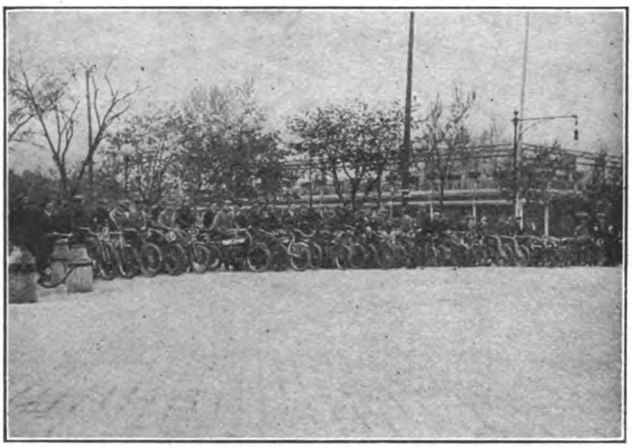
NEW YORK CLUB'S SPRING CENTURIES

Their Single and Double Century Run Attracts Vets and Novices to the Tune of Over One Hundred

THEY were events to be remembered, those single and double centuries over Long Island roads last Sunday, under the auspices of the New York Club. Nearly one hundred riders, fifty in the double, and forty-five in the single, succeeded in finishing, and there were very few indeed, in either event, who could be made to concede that they hadn't done a hard day's work. Of course, there were veterans and novices, and those whose classification fell in between, nor was it always the beginner who fell by the wayside, nor always the veteran who had the least trouble. Road and machine hazards were pretty evenly distributed, as were the pleasures of speeding over the fine thoroughfares for which Long Island is famous.

Six in the morning is an infernally early hour at which to mount one's motor-driven two-wheeler for a double century. Then, too, the weather man was rather slow in



Start of the "Double"

producing sunshine. Notwithstanding, seventy-two riders gathered at Bedford's Rest in the cool gray dawn of the morning of their eventful achievement. They lined up in the mist and, after the photographer had had his turn, something like three-score and ten intrepid riders set out to make Time and Space look wan and sick.

Chapple and Goerke, anxious to attend to the checking arrangements, completely outdistanced the others, although the pace was fast, and speed brushes were by no means infrequent. By the time the outskirts of Brooklyn were reached, the participants were pretty well spread out over the landscape. Chapple and Goerke, after having established the checkers at Southampton, made a quick return, and reached Patchogue in time to check in the first century arrivals, who had left Brooklyn at 9 o'clock.

The roads were in fine condition as far as Patchogue. Thereafter, however, much sand was encountered, and it was in covering this course that the novice, and not a few old-timers, particularly in the neighborhood of the Shinacock Hills, experienced difficulties of the heart-burning sort. But here, practical Samaritans, representatives of the G & J and Morgan & Wright companies respectively, traveling in well-equipped autos, helped many a rider over obstacles that would otherwise have proven insuperable. Not only were tire repairs made in P. D. Q. order, but other problems solved by these willing and thoroughbred experts, Messrs. J. B. Tower and J. H. Borden, of Morgan & Wright, and Messrs. Philip and Webb, of the G & J concern. The former subsequently experienced a serious mishap in the form of a broken axle, which caused their machine to break into the underbrush by the road-side. The occupants of the car, however, were uninjured. The assistance thus rendered by the tire people cannot be too highly commended.

Goerke and Chapple

A number of riders sustained spills at the well-known Hairpin Turn, just outside of Southampton. Fred. Littlefield and Gilmore Johnson were injured, but not sufficiently to prevent them from continuing their grind.

At Southampton dinner was served, and it is needless to add that justice was done to the provender supplied by the proprietor of the hotel at that place. The return journey was without any extraordinary incident, except the spectacle of the police stopping the trolleys in order to give the boys the right of way. It was one of those gratifying little kindnesses which produce a lot of good feeling. Those who finished the 200-mile run and qualified for the silver medals were as follows:

Rider.	Machine.	Tires.	Trans.
F. Seery	4-H. N. S. U.	P. U.	Belt
F. Hieronymous	3½-H. N. S. U.	P. U.	Belt
K. Moore	3½-H. Excel.	G & J	Belt
F. Voelker	3-H. N. S. U.	P. U.	Belt
H. P. Senior	6-H. M. M.	G & J	Belt
W. Stevens	7-H. Stev.	G & J	Belt
Al. Goertz	3½-H. Wagner	G'drich	Belt
H. Severin	3½-H. Excel.	G & J	Belt
Bert Ruby	3½-H. Excel.	M. & W.	Belt
Jno. Constant	6-H. Curtiss	M. & W.	Belt
W. Terhune	3-H. N. S. U.	P. U.	Belt

Johnson, After Running Into a Fence

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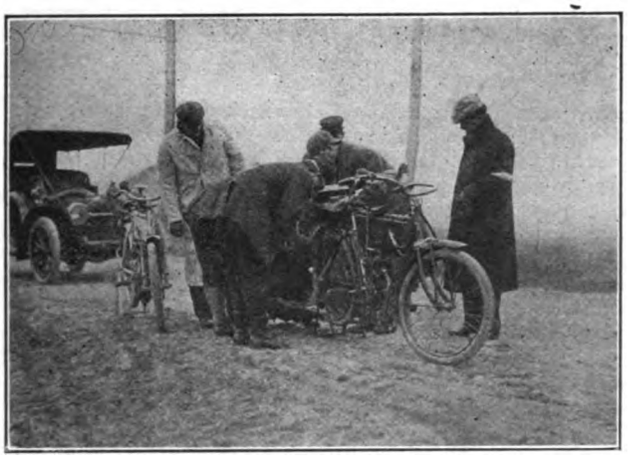
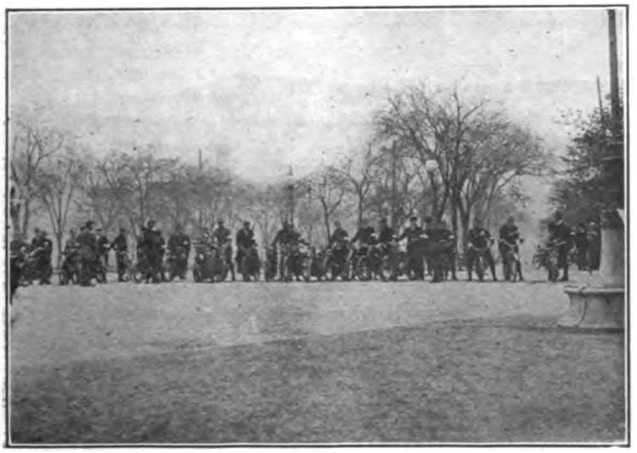


Morgan & Wright Doctors Get Busy

M. Topel	5-H. Indian	G & J	Belt
J. Sheehan	6-H. M. M.	M. & W.	Belt
F. Horenburger	4-H. F. N.	Eng'lb'g.	Shaft
W. Coursen	5-H. Indian	G & J	Chain
A. Guterman	5-H. Indian	G & J	Chain
J. Siemsen	3½-H. Excel.	M. & W.	Belt
A. McIntyre	5-H. Indian	G & J	Chain
K. Owen	3½-H. Indian	G & J	Chain
G. C. Davis	7-H. Curtiss	M. & W.	Belt
L. Strassburger	5-H. Indian	M. & W.	Belt
F. Littlefield	5-H. Dot	Clinch.	Belt
Geo. Ashley	6-H. N. S. U.	P. U.	Belt
H. Evers	4-H. N. S. U.	P. U.	Belt
Al. Bartsch	6-H. N. S. U.	P. U.	Belt
S. Kellogg	3½-H. Excel.	G & J	Belt
J. McLaughlin	6-H. N. S. U.	P. U.	Belt
I. J. Darno	3½-H. M. M.	M. & W.	Belt
Dw. Patterson	3½-H. M. M.	M. & W.	Belt
P. Guthrie	3-H. Au.-Bi.	G & J	Belt
Sam. Bell	5-H. Vindec	Cont.	Belt
G. Kirchoff	3½-H. M. M.	M. & W.	Belt
Jno. Bender	5-H. Indian	G & J	Chain
Jno. Steele	5-H. Indian	G & J	Chain
F. B. Searles	6-H. Pierce	G & J	Shaft
H. Rogers	5-H. Indian	G & J	Chain
Leo Schwartz	3¾-H. N. S. U.	P. U.	Belt
A. Lane	6-H. M. M.	M. & W.	Belt
Al. Kreuder	6-H. M. M.	G & J	Belt
W. Ginger	6-H. M. M.	M. & W.	Belt
Harry Mapp	5-H. Indian	G & J	Chain
Le Roy Cook	3½-H. M. M.	M. & W.	Belt
C. Crownshield	5-H. Vindec	Dunlop	Belt



Lined Up for the "Single"

H. B. Lyon	6-H. N. S. U.	P. U.	Belt
Al. Harris	7-H. Vindec	Dunlop	Belt
G. V. Lyons	8-H. Minerva	Cont.	Belt
Chas. Ruch	3½-H. Wag.	G'drich	Belt
W. Goerke	5-H. Indian	G & J	Chain
A. J. Chapple	5-H. Indian	G & J	Chain
Dr. Thornley	5-H. Indian	G & J	Chain

Sixty-three riders were sent away, at 9 A. M., to make the fifty miles to Patchogue and return. The roads proved excellent, comparatively little trouble was experienced, and forty-five of those who started made the entire distance and finished on time, six hours being allowed. Those who qualified, and who were awarded bronze medals, were as follows:

Rider.	Machine.	Tires.	Trans.
H. Heyer	6-H. M. M.	G'drich	Belt
F. Parris	3½-H. M. M.	G & J	Belt
R. Butler	3½-H. R.-S.	M. & W.	Chain
D. Torrano	3½-H. M. M.	G & J	Belt
T. Ward	3½-H. M. M.	G & J	Belt
E. B. Landon	3½-H. Curtiss	M. & W.	Belt
G. Frost	5-H. Indian	G & J	Chain
P. Drummond	5-H. Indian	M. & W.	Chain
W. Bende	5-H. Indian	G & J	Chain
C. Fraser	5-H. Indian	G & J	Chain
J. Dresser	6-H. R.-S.	G & J	Chain
A. Ingold	7-H. M. M.	G & J	Belt
J. French	3½-H. Bren.	P. U.	Belt
F. Yewdall	3½-H. Bid.	G & J	Belt
J. Frederick	3½-H. Linden	M. & W.	Belt
A. Regan	3½-H. R.-S.	M. & W.	Chain
W. E. Finley	3½-H. Merkel	M. & W.	Belt
A. Hall	3½-H. M. M.	G & J	Belt
C. Korte	5-H. F. N.	Ingleb'g	Shaft
F. Hart	3-H. R.-S.	G. & J	Chain
W. Wood	4½-H. F. N.	G & J	Shaft
C. Gerken	3½-H. M. M.	G & J	Belt
D. Pollock	3½-H. Syrolea	G & J	Belt
O. Korte	3½-H. Light	G & J	Chain
C. Todd	2¼-H. R.-S.	G & J	Chain
Al. Coen	3-H. Wagner	M. & W.	Belt
G. C. Bungarz	3-H. Curtiss	M. & W.	Belt
J. Hernandez	3½-H. R.-S.	G & J	Chain
H. Maurer	3¾-H. N. S. U.	P. U.	Belt
E. Halsey	3½-H. M. M.	M. & W.	Belt
R. Hanna	2¾-H. Indian	G & J	Chain
Gr. Place	3½-H. Indian	G & J	Chain
Alonzo Hoyt	6-H. M. M.	G & J	Belt
Jas. Kellogg	3½-H. M. M.	M. & W.	Belt
Fred Chase	5-H. Indian	G & J	Chain
Al. Tulmer	2¾-H. Peugeot	French	Belt
M. Berger	2¼-H. Indian	G'drich	Chain
Harry Spier	3½-H. M. M.	G'drich	Belt
H. Coryell	5-H. Indian	M. & W.	Chain
L. Halsey	3½-H. M. M.	M. & W.	Belt
S. Simpson	3¾-H. N. S. U.	P. U.	Belt
C. W. Payne	3½-H. M. M.	G & J	Belt
W. Enequist	3½-H. N. S. U.	G & J	Belt
T. R. Phillips	3½-H. N. S. U.	P. U.	Belt
Jno. Faucett	4-H. N. S. U.	P. U.	Belt

The finishing machines, including both runs, were divided as follows: M. M., 22; Indian, 21; N. S. U., 15; Reading Standard, 6; Excelsior, 6; Curtiss, 4; Wagner, 3; F. N., 3; miscellaneous, 14; total, 95.

Four cylinders, 4; twins, 37; singles, 44; total, 95.

Belt, 64 ("V," 41; flat, 23); chain, 27; shaft, 4; total, 95.

Tires—G & J, 43; Morgan & Wright, 24; Goodrich, 5; foreign, 23; total, 95.

No accurate account was taken of the order in which the riders in either run came in, and the riders in both the double and single centuries are placed without reference to the time in which they respectively finished.

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BUYING A SECOND-HAND MACHINE

By E. H. GOLDSCHMIDT

IN the present state of efficiency of motorcycle manufacture, no machine can be said to be worn out for several years, but styles change very rapidly and there will always be those who want to be right up to the minute regardless of the expense entailed. In consequence there is on the market today a large number of excellent second-hand machines. But in no other business, except perhaps the gold-brick and green-goods line, is it so easy for the novice to get badly "stung." It is very difficult to tell the real condition of a motorcycle at a glance and a trial is not always available. Furthermore, a machine may run nicely for a few miles, and yet, in a few weeks, require endless repairing. On the other hand, one often finds motors which, through bad handling or lack of tuning, run very badly or not at all, though for a small outlay of time and money, properly applied, they could be made to give excellent results.

The first thing to consider is whether the machine in question is worth purchasing at all. With the large selection offered one can afford to be particular; there are some faults which it is not worth while to attempt to remedy. The question of age resolves itself entirely into a question of make, for if the machine was a good one in the beginning it will be good much longer than one which was originally of a lower grade; but the matter of design is also important. A machine of short wheelbase, high saddle, high-hung engine, and short handlebars will never be comfortable, and it would be wiser to wait for an opportunity to obtain one of a more modern build. Transmission must also be considered. The type is entirely a matter of personal preference; but block chains, chains too small for their work, a narrow flat belt with an idler, "V" pulleys not cut to twenty-eight degrees, or too small an engine pulley, can never be made to give efficient service. A cracked frame lug, cylinder, crank case, or piston, or a buckled wheel, also mean repairs that had better be left for the next fellow.

Not less important is the condition of the engine. This is the heart of the machine and if it has been seriously injured the cycle will be part of the repair shop furniture for some time to come. Jack up the rear wheel and stand on the pedal with the valve dropped. A high compression engine in good condition will hold your weight almost indefinitely in this manner, but if the pedal does not fall for several seconds, the cylinder and rings may be considered to be in good condition. If it goes down rapidly the engine should be examined further. Have the cylinder taken off and run your finger carefully all over the inside surface. If you find any cuts, scratches, grooves, or rough spots, make a hurried exit. If, however, it is all bright and smooth, you may turn your attention to the rings. Examine carefully the surface which rubs against the cylinder. It should be all brightly polished, but there will probably be dark spots. If these spots are very frequent, you had better steer clear, but if only a few it simply means new rings. First, however, be sure that you can obtain new rings for that particular make and model, as it is an expensive job to have them specially made.

Having satisfied yourself on all these points that the machine is really worth owning, the question arises: Is it worth the price asked? Of course, this can only be told by a knowledge of prevailing prices, though a careful examination will help you to compare it with other machines offered and enable you to chose the best.

While you have the cylinder off, glance at the bearings. Run off the belt (if the machine is so fitted) and try to move the pulley or engine sprocket up and down. A tiny amount of play is to be expected here, but if it is at all great, new main bushings will be needed, the cost of which must be added to the price you are to pay. The same is true of the crank and wrist pin bushings. The former can be tested by moving the connecting rod up and down while the pulley is held still, and the latter by holding the connecting rod with one hand and moving the piston up and down with the other.

Next to motor repairs the tires are probably the most expensive parts to renew. These are often overlooked in buying a second-hand mount, because they can be obtained anywhere, but it should be remembered that they cost a great deal. A flat tire means a puncture or rotten tube, although the owner may tell you that he just let it down "to keep it from stretching." Chains or belts are also large items and their condition should be noted. Do not forget to examine the sprockets, as, if they are worn, it will be useless to replace the chains unless they are replaced also. Damaged pedalling gear, broken brake, dented tanks or rims, run down batteries, bent spokes, and broken mud-guard stays or control levers, are of less importance, as they are easily repaired, but they should all be looked for and taken into consideration in fixing the price. On the other hand, if the machine is fitted with a stand, lamp, horn, carrier, speedometer, or other extras, or spares, their value must be allowed for. Above all, be fair. Get what is due you, but, if you find the machine good, do not bicker about every little thing. Pay a reasonable price and get good wishes along with your motor.

Now, if you have followed these instructions intelligently, you will have obtained a machine, perhaps not as fine as your neighbor's new twin, but nevertheless, a good, obedient and fleet-footed little servant which will carry you at your will, out of the prosaic everyday life into the realms of fancy, fresh air and freedom.

ONE OF THE WOMEN WHO RIDE

MRS. HENRY W. ROBINSON, of Waltham, Mass., is one of the few women riders in the Bay State. She is familiar with every part of nearly all the various makes and for some years has spent much of her time at her husband's motorcycle agency and repair shop on Crescent street, directly under the rooms occupied by the Waltham Motorcycle Club. She can repair a machine or fix a tire as easily as her husband and never yet has been obliged to walk home after a breakdown.

Nuts that are rusted fast can often be loosened by giving a hard turn in the tightening direction.

A GROUP OF UTICA, N. Y., RIDERS

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MOTORCYCLE ILLUSTRATED

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F. P. PRIAL

J. LEO SAUER - - - - - - - - *Editor*
L. H. CORNISH - - - - - - *Advertising*

PUBLISHER'S NOTE

If we reported important Decoration Doings in our June 15th issue, the result would be flat, stale, unprofitable. We shall therefore hold our June 1st issue a day or two so as to include reports of the principal events of May 29th and 30th.

THIS NUMBER

THIS is our special, a mid-May number, designed to stimulate inquiry and create business for the equipment, accessories and specialties people. The publisher has to make an occasional splurge; so does almost every business man in this country. We love sensations too much. Hence this issue. Besides, the makers who have brains and capital are pretty well over-sold. That means a big demand for parts, fittings, needful things. That was another reason for the issue.

We list all firms, whether they advertise or not. Some of them are poor, others over-sold, others—oh, well, they have reasons, to them quite satisfactory, why they are not advertising. But most of them will make money this year, and we'll get some of it—later; sure to. We do, however, omit one firm that is well known. They owe us money; they owe many people. Their president says they are 'judgment proof," a beautiful state to achieve surely. But we don't want "judgment proof" people in this paper. It is unfair to line them up with firms who intend to and who mostly do pay their bills.

The issue has cost much time and money. The net profit will not be dazzling. But the main point was to stir things up, to prove that MOTORCYCLE ILLUSTRATED ever tries to give its advertisers some play for their money.

Advertisers must get returns or they won't stick. It will take a minute to say: "Saw it in MOTORCYCLE ILLUSTRATED." Please say it and greatly help and oblige.

A NEEDED REFORM

"RECORDS are falling, at Los Angeles, like wet leaves in a wind-swept forest. Later, they will fall elsewhere. Are they bona fide, authentic? Like Cæsar's wife, are they above suspicion, the figures already claimed? Has the F. A. M. a plan to check all the factors in these record-breaking performances? Do the officials *swear*, on a suitable form, that the track measurement is all right, that the clocking is accurate, that the scoring is absolutely correct?"

This editorialette was printed in our May 1st. At once a reader writes to protest. Do we suspect these Los Angeles records, the timing, measurement of track, etc., etc.? Decidedly we don't. We think the Los Angeles folks are honest. We also think that they know their business.

But records must not be based on thinks or beliefs. They should be as firmly grounded as a fact in science. Some day, in the not distant future, we will have all sorts of claims for all kinds of records. And the whole thing will be chaos. There may even be fraud. Now, the correct way is for the F. A. M. Competitions Committee to issue a Record Form, to be properly filled out and signed by timers, judges and referee. At the present time the F. A. M. has no way of passing upon the truth or falsity of any record claimed. They should have.

BRITONS SUSPICIOUS

STRANGELY enough, at the very moment that we were appealing for proper authentification for American records, *Motor Cycle*, of London, leads off with a front-page article on our records; slams them with a club; prints a big scare-head: 'American Records (?)" The general tenor of the article is to the effect that: "As soon as Americans regard records in a more serious light, and give exact particulars and measurements of the tracks on which these performances are made, we shall be ready to give credit to speed trials in the States."

Thanks, awfully! It is true that we should be delighted if our trans-Atlantic brethren would accept and give us the due meed of fame for record-breaking events; but it is infinitely more important that we ourselves should be able to surround the record slate with such protection that the figures written on it from time to time shall be beyond suspicion.

PARAGRAPHIC

IF you are in the market for a second-hand machine, and are innocent of experience or mechanical knowledge, read the article on "Second Hands" published in this issue. It is a complete guide in the matter. It is practical, simple. If, in buying a "second hand," you will keep in mind the points stated you will be happy, not sad.

The Michigan Supreme Court has decided that motorcycles are vehicles within the meaning of the law, which ought to dissipate the widely prevalent belief that they are merely fireworks.—*Indianapolis News.*

The season has opened well. General conditions are only promising; in this field they are brilliant. The future may prove productive of results nothing less than dazzling.

"Behind orders" everywhere. No danger of overproduction during the current twelvemonth.

Some good news stuff among the advertising pages, this issue. Don't miss it.

The sidepath movement looks good. Push it.

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WITH THE CLUBS

AS already announced, the Harlem Motor Cycle Club, of New York City, will hold its annual spring run on Decoration Day to Atlantic City and return. The fact that the controls have been arranged to allow a speed of 14 to 18 miles per hour will permit novices on low-powered machines to make them as easily as the more experienced riders, while deductions for unwarranted speed will add a tinge of excitement and competition to the run, and at the same time give all riders an opportunity to win one of the gold medals. The event is to be purely a pleasure affair—racing will under no circumstances be permitted by the management. Each entrant will be credited with a score of 1000 points at the start; one point will be deducted for each minute before or after the schedule time at which the entrants make the controls. Any contestant entering a control 30 minutes before schedule time will be disqualified and not permitted to continue.

One of the features of the second day will be a brake test at some point unknown to the contestants. Riders not qualifying in this event will be penalized 25 points. Full instructions regarding this test will be given before the start from Farmingdale on the second day. An economy test will be held on the afternoon of the second day. The rider traveling furthest on one pint of gasoline will receive a perfect score for this event, the second rider will be penalized one point, the third two points, and so on. Two handsome gold medals will be awarded to the riders having the highest number of points in the single and multi-cylinder class, while all those completing the run with a score of not less than 850 points will receive silver medals, all at the club's expense.

The total expense for the run will be as follows, special arrangement having been made with the proprietors of the hotels where the contestants will stop: Entry (including medal), $2.00; Farmingdale, first night, including all meals, $1.25; Atlantic City, second night, including all meals, $2.50; Farmingdale, third day, dinner, 50c.

The stop at Atlantic City will be at the Iroquois Hotel, at South Carolina avenue and the Beach instead of the Rudolf. The management has arranged for an entertainment at Farmingdale, the first night, at the club's expense. The run has been arranged to start at 1 P. M. Saturday, instead of 11 in the morning, followed by Sunday and Decoration Day, making it most advantageous for those riders whose business connections make it difficult for them to leave on a week day.

The route as shown is through the most beautiful and picturesque roads of Staten Island and New Jersey, which are notable for their entire absence of hills and poor roads. The route also takes in the unequalled stretch of road from Lakewood to Atlantic City, which is practically all boulevard riding.

KEENE, N. H.—The Consolidated Motorcyclists have organized a corporation and have filed articles of association at the office of the Secretary of State. The objects, as stated in the articles of incorporation, are to promote a spirit of fraternalism among the members, to protect their interests, to advance the knowledge of the operation of internal combustion engines, to promote the doctrine of the sane and safe use of the highway, to hold contests of skill and to aid in the movement for the building and maintenance of good roads. The incorporators are G. W. Scott, of Winchester; Fred S. Morse, Clifford C. Wilber, Henry C. Lake and Harry C. Dean, of Keene.

PITTSBURG, Pa.—Some time this summer the Keystone Bicycle Club hopes to hold an old-fashioned race meet with motorcycle events. The membership of this club has lately been increased by the addition of a number of motorcyclists.

Incontrovertible Proof of Middle Western Enthusiasm
A Remarkable Hoosier State Photo

SAN ANTONIO, Tex.—Carl W. Huser, 509 Water St., secretary of the local club, is anxious to hear from other clubs in the way of hints on rules, runs and general management. The organization is a new one, and it has been successful from the start. Mr. Huser reports that the mostly ridden machines here are the Indian, M. M., Thor and Armac.

NORWALK, O.—A club has been organized here with the following officers: President, F. G. Weichel; secretary and treasurer, Milton A. Justice; road captain, Forest Krespach. The other members are George Kohlmeyer, Robert Stein, Theodore Shaefer, August Amato, F. W. Parnes, L. O. Thompson and F. W. Keller.

WHEELING, W. VA.—Local riders have organized as the Ohio Valley Motorcycle Club. The charter membership is ten.

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MINNEAPOLIS, Minn.—A. T. Stata, president of the local club, writes us as follows:

"At a special meeting held April 29th, our club voted to hold a Hill Climb on May 29th on Riverside Hill, which is both long and steep enough to make the contest an interesting and exciting one. The first prize will be valued at $50, the second at $20 and the third at $10. The climb will be conducted according to the rules of the F. A. M.

"It was also decided to incorporate the club and a charter of incorporation has been applied for. The building of a saucer track was discussed and it is safe to say that one will be completed in time for a racing program on July 4th. The ground has been leased and estimates are now in for the building of the track. The necessary money is in hand.

"For a club not quite a year old we have made excellent progress. There is no dissension among our one hundred members, and there is a nice balance in our treasury. All our contests last year were very interesting and the club still has a silver cup and a gold medal to be competed for this season.

"A club house is assured and will in all likelihood be built within the next two months. No definite plans have been made for the building, except that it will be a bungalow with ample accommodations, and so built that it can be enlarged as we may require.

"Some time ago there appeared in another paper an article which told of a road race held under the management of the Minneapolis Motorcycle Club and stated that some of the contestants had turned professional in that they had accepted cash prizes. This statement was untrue. The race referred to was won by Guy Webb and he has to show for his prize a gold watch with an inscription stating the date of the race, the distance, the time made and the name of the club. No contestant in the race nor in any other race held under the auspices of our club was ever paid a cash prize.

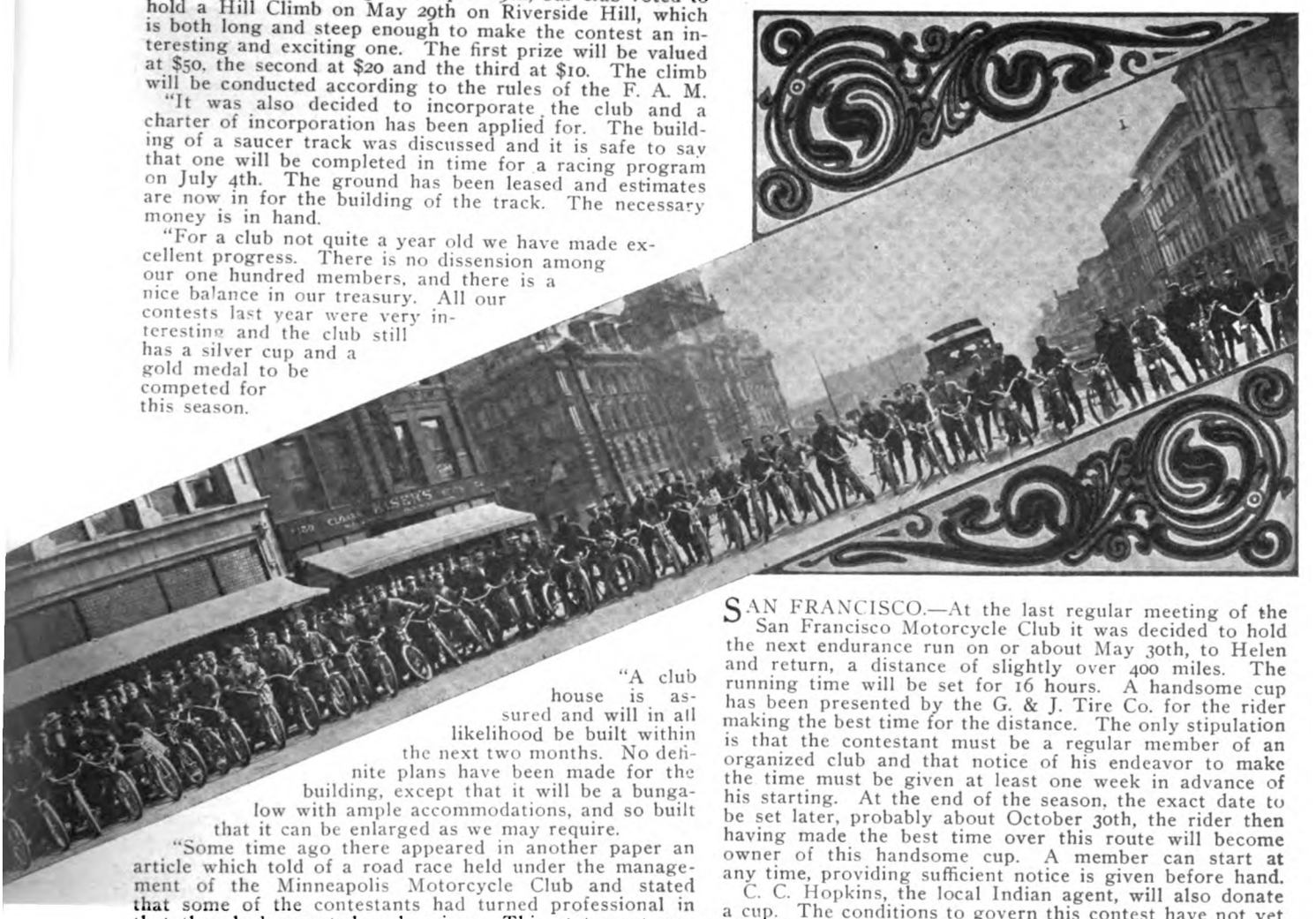
"It is our intention to create some lively interest this summer through contests to be arranged between our club and the St. Paul Motorcycle Club, which is a very busy and progressive organization."

RIVERSIDE, Cal.—Arrangements have been practically completed by the local club for holding the race meet that has been talked of for some time, on Decoration Day, Monday, May 31. The Japanese are taking to the motorcycle with a good deal of enthusiasm, and it has accordingly been decided to arrange two events for this class of riders, one for five miles and another for three. Committees have been appointed as follows:

Tracks—S. McIver, E. J. Knoll, J. A. King, C. Knoll. Advertising—E. Pequegnat, S. McIver, D. Milan, J. A. King. Race Committee—E. J. Knoll, J. Oldendorf, C. Young.

GRAND RAPIDS, Mich.—The Grand Rapids Motorcycle Club has elected Arthur Rosenthal as president and road captain and Joe Poisson as secretary and treasurer. The club is planning for many long runs this summer and an active campaign for membership is to be instituted. There is a possibility that representatives of the organization will make the long run to Indianapolis in July for the purpose of attending the national meeting of the Federation of American Motorcyclists.

A Rather Striking Picture of Riders in Gus Habich's Recent Indianapolis Run



SAN FRANCISCO.—At the last regular meeting of the San Francisco Motorcycle Club it was decided to hold the next endurance run on or about May 30th, to Helen and return, a distance of slightly over 400 miles. The running time will be set for 16 hours. A handsome cup has been presented by the G. & J. Tire Co. for the rider making the best time for the distance. The only stipulation is that the contestant must be a regular member of an organized club and that notice of his endeavor to make the time must be given at least one week in advance of his starting. At the end of the season, the exact date to be set later, probably about October 30th, the rider then having made the best time over this route will become owner of this handsome cup. A member can start at any time, providing sufficient notice is given before hand.

C. C. Hopkins, the local Indian agent, will also donate a cup. The conditions to govern this contest have not yet been determined.

CHICAGO, Ill.—Thirty-eight riders of M. M. machines assembled recently and organized the M. M. Motorcycle Club, the object being to meet weekly and take joint tours into the neighboring states. The initial run was made to South Bend, Ind.

A Group of Dayton, O., Club Members

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QUESTIONS & ANSWERS

COULD GET NO SPARK

C. BADBURN, Cedarburg, Wis.—You have omitted one point in your communication. After laying your spark plug on the cylinder and sharply trying the make and break of the contacts, do you get a spark at the plug? If not, the most likely spot for the fault is in the contact breaker, as you have surmised. It is more than improbable that you have in any way damaged your coil by the fall which you have had, unless the coil is fitted in an exposed position. The clicking noise which you hear often occurs in coils and rather indicates that your coil is in good working order. The primary circuit is all right, as you have proved by making the short circuit with a screwdriver, and as no spark can be procured between the points of the contact breaker, it is likely that you have damaged the same with the fall. Probably you have cracked the insulating fibre or vulcanite; this may not be apparent to the eye. Take it off and carefully examine it, as this seems to be the seat of your trouble.

Don't bother about the coil until you have thoroughly examined this and dissected the contact breaker. Often a crack can be detected after you have washed the insulating material in gasoline, as a thin film of oil may hide it from the naked eye, but in all probability you will find the defect here right away. The "sticky hissing" sound is probably the current shorting to the base chamber under the insulation, so that this leads us to believe that the fracture is probably at the back of the fibre, perhaps behind the contact screw. No, you cannot have "too much" genuine platinum for your contact points. Be sure it is genuine, though, as there are many "German silver" and nickel imitations wandering round the country. Be sure to "tune" the contact breaker to the right adjustment, when you replace the same, so as to give a fair test to the ignition; then test the spark between the plug points.

MECHANICAL VS. AUTOMATIC VALVES

I WOULD like to state my ideas of the distance required by the stroke of the piston to open an automatic valve. It is only 1-13th inch in my 3-h. cylinder, which is equivalent to 1-48th its total h.p., or 1-16th of a horse power, which might be offset by the energy required to compress the heavy spring on a mechanical valve engine.

I figure it in the following manner, taking the dimensions of my twin N. S. U. 6-h. engine as an example. There is 5½ cubic inch cylinder head capacity with piston at top dead centre; the inlet valve is 1½ inch diameter and has a 2¼ lb. resistance spring to fully open valve, thereby requiring 1½ lb. per square inch to open valve. Air pressure is generally computed at 15 lbs. per square inch at sea level; so when the air inside of the cylinder is rarified to 13½ lbs. per sq. in. the valve will fully open. Therefore, when the piston travels down the distance to displace 1-10th of its cylinder head capacity, with piston at top dead centre (in the case of my engine 5½ cu. in.), the air contained in cylinder head will be rarified to 13½ lbs. and the outside air will force the valve to open. I get the 1-10th by dividing the 1½ lbs. into 15 lbs. The bore and stroke of my engine is 3x3⅝ in.

In figuring the above it occurred to me that one might find out the pounds per sq. inch compression of a cylinder by computing the cylinder head space into the space displaced by the bore and stroke and multiplying by 15 lbs. per sq. in. In the case of my cylinders it figures 75 lbs.

Respectfully yours.
FRED J. DIEMER.

Jersey City.

FOUR "trouble men" of the Des Moines Gas Company have been mounted on motorcycles. The company decided to purchase the machines only after a very searching investigation as to their cost, operating expense, etc.

A HINT ON ROAD RIDING

WHILE country road customs vary somewhat in different sections of the United States, still the general practice of giving one-half prevails quite generally in all sections. You are aware that a motorcycle driven down the right hand wheel track is not occupying quite one-half the road and is consequently giving more than the customary one-half to the other road user. Nevertheless, if you drive your motor straight down the right hand track and meet a rig, while you are giving one-half the road it appears to the rig owner that you are not turning out. For this reason I practice the following plan with excellent results:—

Whenever possible in country driving, I cross over to the left hand wheel track while the rig is yet a long distance away. When about 50 yards off, I cross over to the right hand wheel track, giving the impression of turning out and yet not leaving the road face. This is merely a pleasant jolly to create a favorable impression and avoid as much as possible antagonism from the average road users, who greatly out-number motorcyclists and could doubtless have laws passed which would greatly injure the sport.

Yours truly,
F. A. M., No. 1777.

Mendota, Ill.

ADVANCE PER ENGINE REVOLUTION

IN reference to Mr. Patterson's article "A Substitute for Gear-Rating," it seems to me that he has misapplied the word "velocity" and the term "lateral velocity." Concisely, "velocity" means speed, not distance. Then "lateral velocity" is speed sideways—something not unknown to motorcyclists—bringing up memories of bent cranks and twisted handlebars. This, needless to say, is not what Mr. Patterson is driving at.

He seeks a descriptive term for "the distance traveled per engine revolution." Bearing in mind that distance is not velocity and that the motion of a motorcycle is chiefly forward, would not the phrase "advance per engine revolution" better express the idea and avoid confusion? This term would naturally be abbreviated a. p. e. r. and would then make a fine running mate for old r. p. m. in catalog specifications and technical discussions.

Very truly yours,
VAUN L. HAMLIN.

Pittsburgh, Pa.

NEW WAY TO LOCATE PUNCTURES

WHILE riding my motorcycle in Mississippi I found a new way to locate a puncture in my tube. I was riding along a very dusty road and had the pleasure of feeling my rim bump. Placing my machine against a friendly tree, I pulled out the tube and pumped some air into it; but the hole was so small that no amount of stretching, etc., would show me where the leak was. There was no way of watering it, so I laid the tube in the road. The result was a miniature volcano of dust, indicating where the leak was.

Yours truly,
J. S. TORMEY.

Aurora, Ill.

THAT motorcycles can combine business and pleasure is the verdict of E. C. Lowes of Acton, Ind. He has made 158 trips on his machine during the last year over his rural mail route. Every trip averaged twenty-five miles and every day in addition to his own weight he carried from twenty-five to fifty pounds of mail matter. He reports that he gains sport and physical benefit from this way of serving Uncle Sam.

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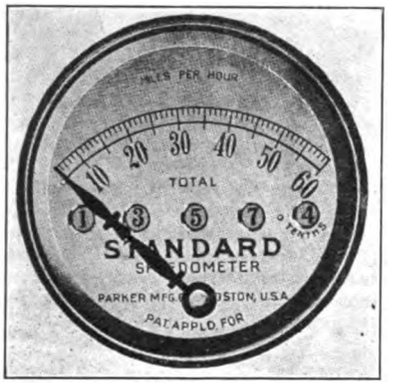
A BRIEF REVIEW
1909
ACCESSORIES AND EQUIPMENT



THE construction of the governor in the Standard speedometer, made by the Parker Mfg. Co., 6 Clifton street, Boston, permits of making a very fine adjustment, so that no instrument varies more than ¼ of a mile at any point in the scale from the absolute speed at which it is running. There is also a decided improvement in the method of driving from the front wheel by using spur gears and using a right angle beveled joint in the flexible shaft drives instead of the ordinary method of using a beveled gear on the front wheel. The advantage of driving with spur gears is great, especially on spring fork machines, which usually have a certain amount of play sideways, which interferes seriously with the meshing of beveled or crowned gears.

The method of gearing is also a special feature. The pinion has twelve teeth and the driving gear which attaches to the spokes of the wheel has the same number of teeth as the diameter of the wheel is in inches, so that a 26-in. wheel takes a 26-tooth gear, and a 28-in. wheel requires a 28-tooth gear.

The most important point of all is the steadiness with which the Standard speedometer operates. The arrangement of the governor makes it impossible for either the road vibration or that of the motor itself to affect the pointer and even while running over paving stones, you can tell within a fraction of a mile the exact speed you are traveling.

There are two models, both with sixty mile dials, one with the speedometer alone and the other provided with a season odometer, registering up to ten thousand miles. These can be supplied in either polished brass or nickel at the same price.

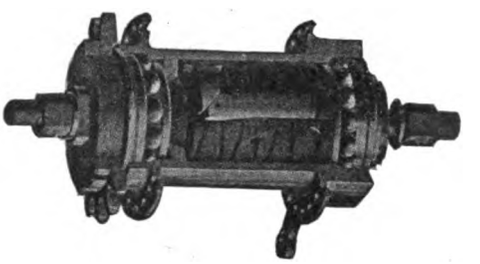
B. F. Goodrich & Co., Akron, O., are making a Rough Rider Grip especially "made to fit the hand." It is guaranteed to protect the rider against shocks and jars, and to prevent the hand from slipping.

CORSON specialties, handled by the Motorcycle Specialty Company, 258 Columbus avenue, Boston, are distinctive. There are, for example, the Corson saddle, already described in this paper; the Corson spring handle bar, guaranteed to eliminate all shock and jar; the Corson chain and take-up idler; the Corson show-room stand; combination stand and baggage carrier; lamp generator bracket and tire repair kit holder, the Corson luggage carrier and toolbox.

The Corson luggage carrier was originated and perfected by upward of 6,000 miles' daily use, carrying packages of from one to 50 pounds. The motorcycle rides steadier and with less vibration with the carrier well loaded.

The Corson improved tool box is 8x 3x8 inches inside, and has room enough to hold all necessary tools and repair supplies. It is made of the best quality 8-ounce leather, black finish. It has a lock and four separate compartments in bottom for holding small parts, such as chain links, nuts and screws, so they will not get mixed together. The holders are made for 1⅛ and 1¼ inch tubing and are finely nickel plated.

SPRING forks are a sine qua non, for comfort is without doubt one of the conditions mostly desired by the rider. You may have all the other conveniences of a modernly equipped machine, and yet, lacking the right kind of forks, easy riding is quite out of the question. If your machine is uncomfortable because of the rigidity of its forks, you can do no better than to get into communication with J. H. Sager, Rochester, N. Y. He has just what you need.



ECLIPSE coaster brakes, manufactured by the Eclipse Machine Company, Elmira, N. Y., are made on the screw wedge and lever principle. A screw thread on the driving mechanism causes a small driving cone to be forced into contact with the hub shell when the pedals are driven forward. Consequently the driving part and the hub rotate together as one part. When the pedals are driven backward the driving part is moved further away from the clutch seat in the shell, with the result that a wedging action is brought to bear on the end of a little lever piece which is loosely fitted between the edges of a slotted brake sleeve running practically the entire length of the hub. As the end of the lever is wedged over, it has the effect of prying apart the sides of the brake sleeve, with the result that it is expanded against the hub. As the sleeve is held stationary at both ends, because it is clamped rigidly to the forks, the effect of this expanding or swelling action is to bring very powerful braking action to bear on the wheel, and this continues just as long as backward pressure is exerted on the pedals.

The coasting qualities of this brake far exceed those of any coaster brake the company has ever made. It runs and coasts on perfectly designed bearings, with hightest grade ⅜-in. balls, and ball retainers, using a full row of balls. Especial attention has been given to lubrication, and its entire freedom from small or delicate parts makes it substantial and reliable.

COMPOUNDS for the inside of tires, designed to automatically close punctures, are increasing in popularity. Among the most favored of these is Permanit, manufactured by the Adolph Karl Company, Inc., 243 Washington street, Newark, N. J.

C. O. T. Gum Gum, manufactured and sold by Charles O. Tingley and Co., Rahway, N. J., is prepared for the purpose of repairing dig-outs. The Tingley product is a handy accessory.

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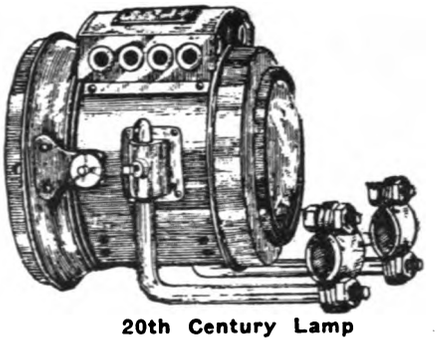
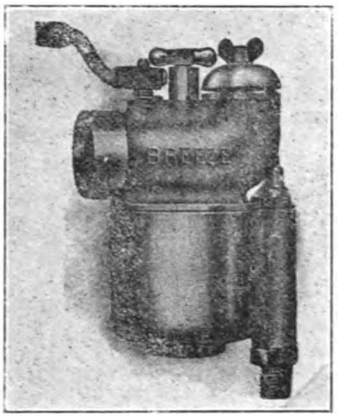
Herz Magneto

Splitdorf Spark Plug

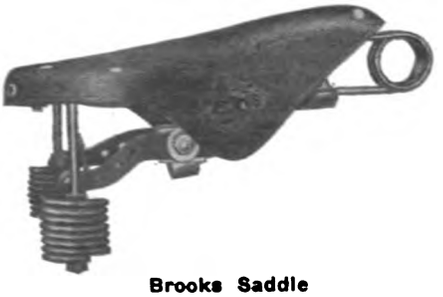


20th Century Lamp



Breeze Carbureter

Veeder Cyclometer



Brooks Saddle

COINCIDENT with the enormous increase in the business of automobile and motorcycle manufacturers there has been a parallel one for the makers of parts and suplies, necessitating enlarged facilities for production, a maximum output of high-grade goods and often a change of headquarters. This has been the recent experience of Herz & Company, of New York, Vienna and Stuttgart, which has moved northward along Lafayette street, in New York, to the corner of Houston, where it has found factory space for the extension of its trade. Under the direction of G. L. Herz, who spends half of each year in this country and half in Europe, the new plant is now working day and night to fill its orders for ignition and other specialties, all but a small part of which are used by automobile factories.

In the way of motorcycle accessories, the New York factory is used in making timers, pumps and spark plugs. The Herz magnetos are all made in Germany and imported complete for American use. By its change in location the metropolitan house is now fully equipped to manufacture the parts which the firm markets.

MOTORCYCLISTS who are willing to pay a fair price for a good lamp, with proper attachments, may safely deal with the Twentieth Century Company, 17 Warren street, New York, which is marketing several models, among them the following: No. 100, front diameter, 5 inches, 4-in ground Mangin lens reflectors, brass polished or nickel finish; brackets fit different positions. No. 102, same description and prices, with lug on each side and two-prong bracket No. 14¾. No. 4 Headlight, "separate generator" lamp, brass nickeled, aluminum reflectors. No. 9 Generator (for above lamps), brass nickeled; height, 6 inches; diameter, 2¼ inches; carbide capacity, 6 ounces. Supplies, approximately, searchlights five to six hours; headlights, six to eight hours.

BREEZE carbureters, manufactured by the Breeze Carbureter Company, are, above all things else, simple and efficient. There are only two adjustments, the fuel valve with numbered dial head for low speed and the air valve with wing nut for high speed. Adjustments can be made while riding. The adjustment is simple; set the fuel valve till the motor throttles down and runs nicely on low speed and adjust the air valve for high speed. Dirt is kept out of the air valve by the spun brass cover. It starts easily.

The throttle lever is so designed that it may be operated from any direction to suit the machine to which it is attached. Economy of fuel supply is another big feature in the Breeze.

ALL old riders know full well that comfort, and consequently the pleasure of riding depends very largely upon the saddle. Much of the fatigue of riding is of a nervous character, and whatever is likely to increase this tendency should be most carefully avoided. The celebrated English Brooks saddles, although the most expensive saddles made, are so manufactured that they insure that comfort and durability which is essential to the finish of a perfect machine.

The illustration shows the B 105, size 4, $8.00, one of the most popular and most used pattern in the world. It has a large, comfortable seat, and is provided with the double opposed rear springs that have contributed so much to easy riding on a motorcycle.

Other popular patterns are the B-90, $7.50 model, with single coiled rear springs, and the large "Motorcycle Seat," $12.50, which is as comfortable as an armchair. These saddles are imported by the Hendee Mfg. Co., Springfield, Mass.

VEEDER trip cyclometers, advertised according to the principle that "it's nice to know how far you go," help the rider to know what he should regarding the durability of his tires, the probable condition of his batteries, the consumption of gasoline, etc. This valuable little instrument, costing only $2, is made by the Veeder Mfg. Company, 42 Sargeant street, Hartford, Conn. This concern also manufactures odometers, tachometers, tachometer counters and fine castings.

SPLITDORF spark plugs, manufactured by C. F. Splitdorf, Walton avenue and 138th street, New York, will, it is claimed by the manufacturers, last longer than your motor. The white India mica insulation is guaranteed against any leakage; the gaskets are of spun copper and asbestos. The plug is easily cleaned.

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IGNITION of the mixture by the Bosch Magneto type "Dav," illustrated herewith, is effected by means of an arc which is formed between the electrodes of the sparking plug. The apparatus, therefore, is known as the high tension or jump spark type. The high tension current is generated in the winding of the rotating armature without the use of a separate induction coil. Two sparks are produced during each revolution of the armature, and are conducted to one or other of the cylinders through the distributor which is fixed to the front armature spindle, the current being collected by means of two carbon brushes which are connected by cables to the sparking plugs of their respective cylinders. The variation of the time of ignition is effected on the magneto itself by means of the timing lever causing the interruption of the primary current to take place earlier or later. The chief advantages of this system are: Inexhaustible source of current, no make and break mechanism, no coil, hot sparks, simple connections, ignition timing, and synchronised ignition.

INSTEAD of following previous practice, and building a lamp and generator of very light and unsuitable materials, the new Solar is made up of the very best brass stampings, reinforced and riveted in assembling. The lamp was fitted with a special Bausch and Lomb 4-in. lens mirror reflector, and a bracket was designed that will hold the lamp onto the handlebar stem, no matter how severe the vibration is.

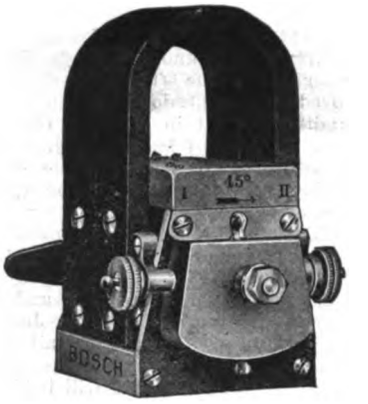
The generator is also made "different." The carbide capacity is ten ounces, greater than any other motorcycle gas generator on the market. It has the Solar gas generation principle. The used and fresh carbide are separated by a screen in the carbide cup. A needle valve gives perfect control of the gas supply.

The Solar outfit is designed to afford perfect lighting equipment for motorcycling at night. It is intended to be put on the machine, and stay on. That it has "made good" is proven by the popular favor with which it has been received. One of the reasons for its success is the lens mirror; this is the most powerful 4-in. reflector on the market. Another reason is the guarantee of the Badger Brass Mfg. Company, 437 Eleventh avenue, N. Y., and Kenosha, Wis., behind every lamp and generator that leaves the factory.

PITTSFIELD coils, manufactured by the Pittsfield Spark Coil Company, Dalton, Mass., are made in both flat and conical ends with four or five leads for one and two cylinder motorcycle engines. These coils are attractively finished, make a neat appearance on the motorcycle and give the highest standard of service, characteristic of Pittsfield goods. The Pittsfield spark plugs are mica insulated, insulation being applied by a special process which makes it practically one solid mass of insulatory material. The electrodes are made from material specially prepared to resist the melting action of the hottest high tension spark. The Pittsfield magneto spark plug differs from the ordinary Pittsfield spark plug in that it has two spark gaps instead of one. These plugs are all carefully gone over before they are assembled and every protection is taken which can in any way obviate the possibility of short circuit.

M & M repair kits, made by the M & M Manufacturing Company, Akron, O., are packed in tin screw-top boxes, containing a special prepared cement, an assortment of patches, cement brush, emery cloth, etc. This outfit will be appreciated by the motorcyclist who has had experience with tube cement, which invariably gets broken or crushed in your tool box, and when most needed you find same has leaked or evaporated. The M & M kit is the result of careful experiments in the repair of punctures.

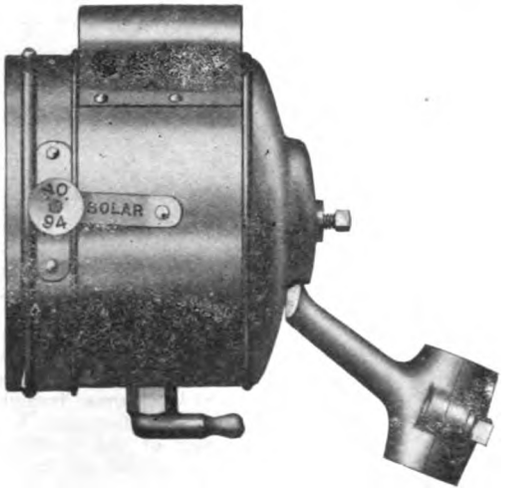
WITH the coming of high-powered motors and fifty or sixty mile speeds, Joseph W. Jones, inventor of the speedometer, was one of the first to realize the importance of placing his instrument where it could be more easily read and where it could not be



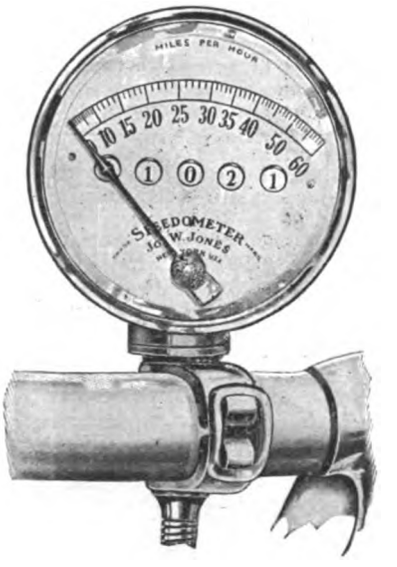
Bosch Magneto

M. & M. Repair Kit

Pittsfield Coil



Solar Lamp and Generator



Jones Speedometer

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injured by an accidental side slip or "spill" in the sand. He left the driving gear in the front wheel, but he moved the speedometer up to the handlebar, right in front of the rider's eyes, and out of harm's way, and connected the two by a flexible enclosed driving shaft, similar to the type he was using on automobiles.

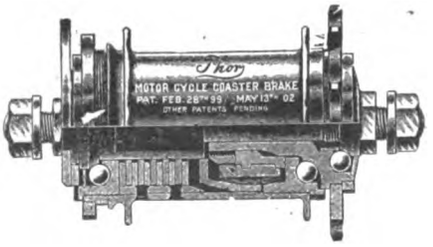
This is the Jones speedometer as it is to-day; reliable, light in weight, substantial enough to withstand all vibration, with a three-inch dial and large, clearly read numerals. Mr. Jones designed special fittings for all of the standard motorcycles in this country, and made brackets that will hold under all conditions. The most popular of the Jones models is No. 26, which has a sixty-mile scale and a season mileage indicator. Models 24 and 25 are fifty and sixty mile speedometers, without mileage indicators, respectively, and still another instrument registers speed up to sixty miles, season mileage in miles and tenths of a mile.

To promote friendly rivalry among riders, and, incidentally, to push the Jones speedometer, Mr. Jones last fall donated a handsome cup, to be awarded the motorist who completes the greatest number of miles during 1909, commencing January 1. The cup is 20 inches in height, of sterling silver, and is designed by Frank W. Smith Company, of Gardner, Mass.

The entries to the contest are not limited as to number, locality, club affiliations, or size and horsepower of machine. Any one can enter simply by signifying his intention to abide by the conditions. Upon request the Jones Speedometer Company will furnish to each entrant a small, leather-bound diary in which to indicate each day's run as recorded on his odometer. In the back of the diary is an affidavit form in which the total mileage for the year is to be sworn to before a notary.

IN the Thor coaster brake, manufactured by the Aurora Automatic Machinery Company, Aurora, Ill., there are ten little discs, half of which are keyed to the hub shell, while the remainder are fixed and held from rotating. The stationary and movable discs are alternated so that each of the inner ones is gripped between two adjacent ones when the brake is in action. The powerful retardation which is secured by this means is brought about automatically by the transverse movement of a clutch member which in turn is actuated by a worm on the driving member.

When the pedals are driven forward, the driver forces the clutch over into engagement with the shell in the ordinary manner, except that the seat of the clutch in the hub is very close to the supporting bearing, and hence there is small likelihood of springing the shell or of unduly straining it. Stopping the movement of the pedals causes the clutch to back out of engagement, and this action and the subsequent engagement of the brake is further assisted by the action of springs, which press against the clutch seatings and tend to retard the movement of the clutch member with regard to them.



Back-pedaling forces the clutch member over into engagement with the braking cone. This member is really a secondary clutch in action.. For, besides coming directly into contact with the faces of the stack of washers, or more properly, the group of discs, and thereby squeezing them together very forcibly, it engages with a conical surface in the hub shell, thereby increasing the frictional effect which otherwise would be secured.

MESINGER, whose bicycle saddles are so well known, is now gaining an enviable reputation in the motorcycle saddle field. The Mesinger factory, at 1801-1803 First avenue, New York, is being run to its capacity, the spring or-

der list having exceeded by far the manufacturer's expectations. The Mesinger saddles are the Cavalry, in five numbers. These saddles have seats padded with curled hair and curved like a horseback saddle, to prevent slipping backward or forward, and to give an entirely comfortable position to the rider. The shock absorber is attached between the two rear springs to check the rebound of the extension spring, minimizes that disagreeable sideway, prevents breaking of springs and adds to the safety of the rider. The shock absorbers can be adjusted to the weight of the rider. The front torsion spring has the well-known hinged joint which acts freely and prevents breaking.

The Standard motor saddle is another Mesinger product, as are various kinds of saddle springs and clamps.

PFANSTIEHL motorcycle coils are now being used as standard equipment by eleven of the leading manufacturers in the country. The Pfanstiehl line embraces all styles of coils, one and two cylinder, and special coils, fitted with switch plugs. The specifications of the manufacturer are met absolutely, even as to size of coil. All models embody Pfanstiehl patented pan-cake system of winding, which enables the manufacturer to place a five-year guarantee on all coils. If required, coils, to operate on two dry cells, can be furnished. The coils are remarkable for their efficiency and durability. The manufacturers have received no reports of breakdown from those coils during the past two years. The address of the Pfanstiehl Electrical Laboratory is North Chicago, Ill.

SERVICE is a strong feature of the Clincher tire, manufactured by the Goodyear Tire and Rubber Company, Akron, Ohio. The casing, moulded type, has four plies of durable, closely woven fabric, long fiber Sea Island Cotton famous for its wearing qualities. Its construction is such that when a tire is cut or jagged by sharp stones or other obstacles, it can easily be repaired. In other words, the fabric, being very closely woven, does not separate.

The cover stock consists of toughened rubber—especially treated—which makes it not only extremely wear resisting, but also maintains its resiliency. The tube is of the same stock used in the Red Seal automobile tubes. This company furnishes either butt-end or endless style. The flap has a feathered edge which prevents tube pinching.

THOSE who are thinking of converting their bicycles into motorcycles should correspond with the Clement Motor Equipment Company, 1900 Broadway, New York. This company sells a complete outfit for $50. Included in the outfit are the engine, gasolene tank of one gallon capacity, Splitdorf coil, leather battery case, belt, belt rim, idler, front fork stays, straps, etc. The position of the engine is such as to practically do away with vibration. Moreover, the engine weighing but 20 pounds, the converted bicycle has a weight of but 65 pounds. In a recent economy test, a bicycle fitted with this motor covered 54 miles on an expenditure of only one quart and two ounces of gasolene.

BEAVER water-proof leather belting is advertised by its manufacturers, the American Belting and Tanning Company, specialists in motorcycle belts, of 242 Chestnut street, Philadelphia, as being ideal for use on the motor-driven two-wheeler. Beaver belting is tanned by a process which insures insoluble leather of great tensile strength. It is not affected by any of the conditions which spoil belts of poorer quality. It is guaranteed to satisfactorily transmit power, to stretch but little, to wear long, and not to slip when wet.

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THE EMPIRE motor cycle tire, manufactured by the Empire Tire Co., Trenton, N. J., is designed and constructed throughout with a view to making it the most serviceable tire on the market. All the materials in its construction are of the best quality, and properly adapted to the work required of this type of tire.

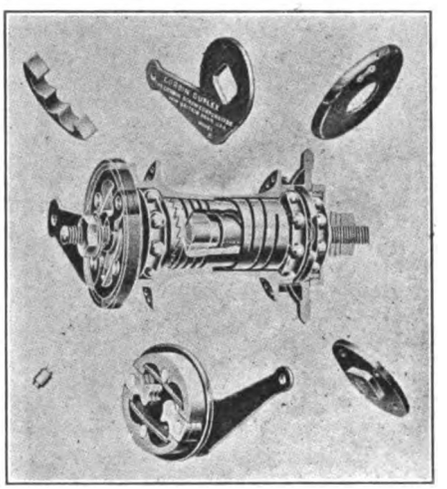
This tire is made for the regular clincher rim, as shown on page 23. It is so constructed that it is more easily handled than any other make of motorcycle tire, and it is, therefore, almost impossible to pinch the inner tube. This means a saving of a great deal of annoyance to the rider, and a saving of expense as well.

This concern makes two styles of inner tubes, endless and butt-end. The butt-end tube is of the greatest convenience for use in the rear wheel of a motorcycle, permitting the changing of tubes without removing the wheel from the frame.

ORDINARY automobile oils are not suited for use in motorcycles, for they are neither able to stand such high temperatures as are encountered here, nor do they have the necessary wearing qualities. To meet the situation, careful and extended experiments have been made by the makers of the Indian, and the oil which they supply under their name—the Indian cylinder oil—is the one that proved most suitable and to give the greatest efficiency. The makers of the Indian are not in the oil business, and their interest in providing this oil is to insure as far as possible that motorcycle riders have the right article and be saved from troubles resulting from poor oil. Indian cylinder oil is supplied at $1.25 per gallon.

WITH the Corbin duplex coaster brake, manufactured by the Corbin Screw Corporation, New Britain, Conn., when the rider pedals forward the sprocket revolves, carrying with it the high speed driver to which it is attached. The high speed clutch travels along the high-speed driver and when the high-speed driver is rotated forward by pedaling the high-speed clutch is drawn into frictional contact with the hub shell, thus driving the hub forward at high speed through power applied to the pedals.

When coasting the pedals are stopped and through the chain, the sprocket, the high-speed driver, and the high-speed clutch are held against rotation, the hub continuing to revolve through the momentum of the wheel. The relative action of the parts moves the high and low speed clutches to the left, out of contact with the hub shell; the low-speed chutch will at such time engage with the teeth on the brake clutch. The wheel will now coast freely, while the feet remain stationary on the pedals. In applying the brake the rider presses slightly upon the rear pedal, the low-speed clutch engages the teeth of the brake clutch, which presses against the levers in the brake cover, which opens the brake shoes into frictional contact with the interior surface of the brake drum, which retards the speed or stops the wheel according to the amount of pressure applied. Upon the next forward movement of the sprocket power will be transmitted through sun-and-planet gear system to the low-speed driver, and low-speed clutch will be drawn by spiral threads into fractional contact with hub shell and thus driving hub at a lower rate of speed than the sprocket. The high-speed clutch will at such time be held out of engagement with hub shell by the controller. To again change back to high speed it is only necessary to again stop the pedals for an instant and the controller will automatically shift the mechanism so that upon the next forward movement of the pedals, the hub will again be driven at high speed.



THE Diamond Chain and Manufacturing Company, of Indianapolis, Ind., manufacturers of power chains and sprockets, recently conducted a series of chain tests, the results of which show the great development made during the last few years in the manufacture of power chains and the capabilities of conveying large horsepower with this form of transmission.

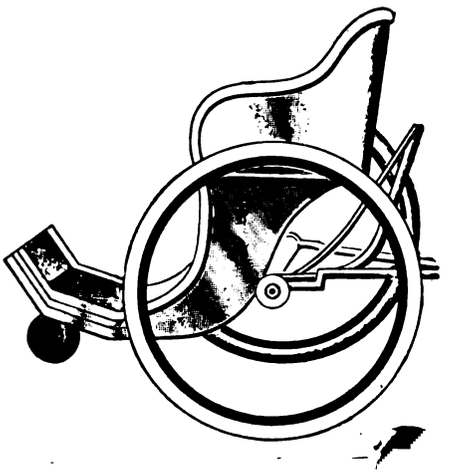
The remarkable showing of increased tensile strength, ultimate working load and chain speed, as compared with former tests, is attributed by the manufacturers to the use of nickel steel rivets, modern processes of case-hardening, and their improved method of reaming all holes in side links accurately to size and pitch, and the assembling of rivets under heavy pressure. This constitutes the term "A Driving Fit," and results in the rivets fitting the surface of the holes perfectly, throughout the entire thickness of the links.

The manufacturers were particularly pleased with the showing made by their five-eighths inch pitch motorcycle chain. This is a size they manufacture especially for motorcycle equipment, and, in view of the extraordinary endurance qualities developed in the tests, they

feel confident that as a motorcycle drive it is a chain that will meet the most exacting requirements.

ONE of the largest bell manufacturers in the world is the New Departure Mfg. Company, Bristol, Conn., which makes them for scores of purposes, including a special line for motorcycles. The growing popularity of tri-cars has induced them to put out a special alarm for that style vehicle. It is a handsome chime bell with 4-in. diameter gongs. It is mounted on the under side of the car floor, well out of the way, and is in no way unsightly. The bell is operated by pressing the plunger with the foot. The mechanism is simple and durable, and the alarm is musical, mellow, and at the same time penetrating. Other bells specially made by this concern for motorcycle use, all mounted on handlebar, are No. 30-C, a chime bell, operated by a lever. Has a pleasing multitone alarm and is one of the most popular of the New Departure line. The Bronko, adapted particularly for use in noisy streets, is operated by a lever and the tone is musical, distinctive and can be heard some distance off. No. C-1. This has a 3½ in. diameter gong (the 30-C and the Bronko have 3-in. gongs), and is the largest of the New Departure motorcycle line. It is operated by pushing a button and an extraordinarily loud alarm continues until the button is released. This concern also make the Two-In-One ball bearings.

This company, the manufacturer of the New Departure coaster brake, is perfecting a new model for motorcycles, both chain and belt drive. The company promises a device which will be the solution of perplexing brake problems that are the aggravation of motorcycle manufacturers and riders. Details have not yet been announced. It is learned, however, that the work is well along and, following the established policy of the company, models are now being thoroughly tested out. Readers of this paper may look for a detailed description of this new brake in an early number.



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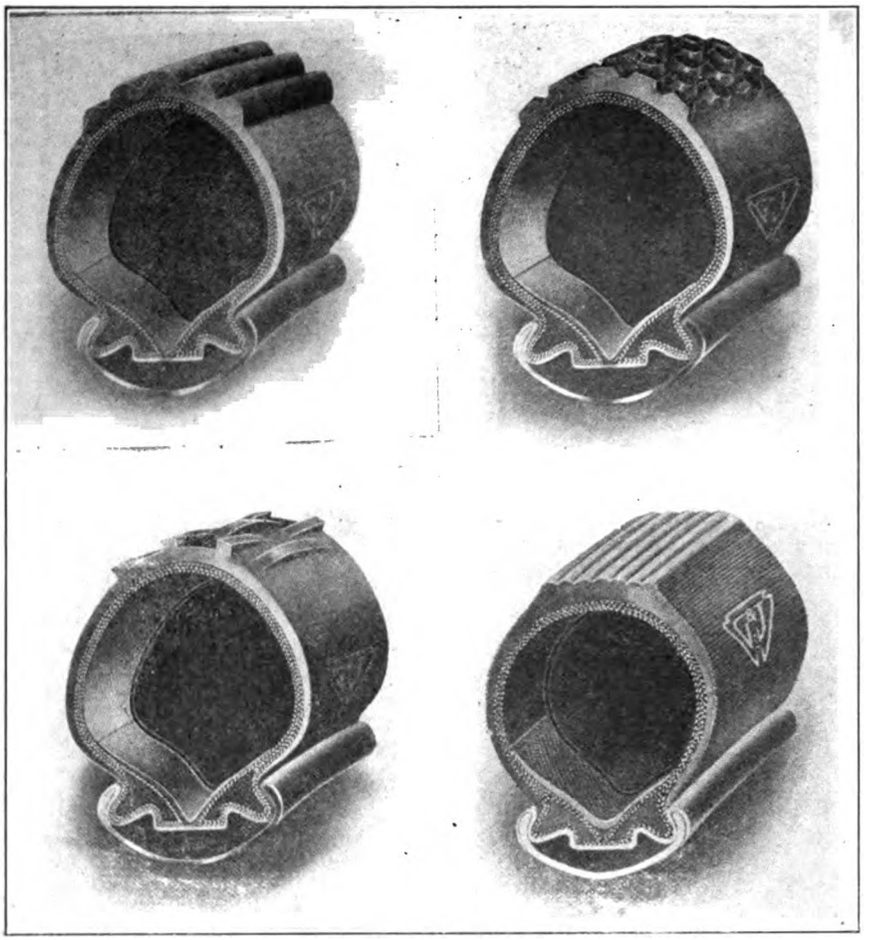
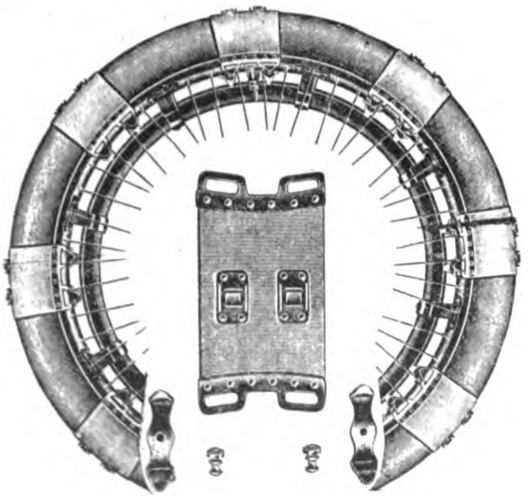
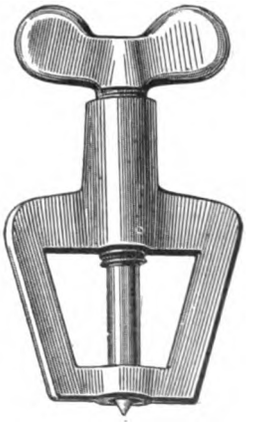
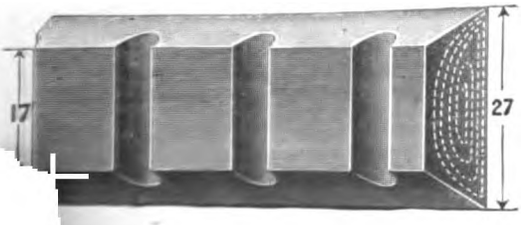
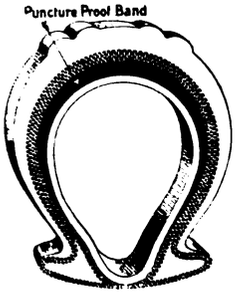


G. & J. Tires; N. S. U. Specialties









INDIANAPOLIS G. and J. tires are popular, and deservedly so. The reasons for this state of affairs are many, not the least important of which is the element of safety which characterises the G. and J. product. Tires should not only possess sufficient strength to meet severe strains, but should be so constructed as to eliminate any possibility of their pulling or rolling off the rim. A most important feature in the construction of the Indianapolis G. and J. motorcycle tires is the double clincher. Having four points of contact the tire is so firmly held on the rim when inflated that it is impossible for it to pull or roll off when skidding or taking sharp turns at a high rate of speed. In addition to this, chafing and rim cutting are impossible, and as the tire will not seat in the rim uuless the inner tube is in its proper place, any liability of pinching the inner tube when applying the tire is eliminated.

The G. and J. company also manufactures inner tubes, double-clincher rims, repair kits, a telescopic pump, rough rider grips, inside and outside sleeves, patches, pedal rubbers, valves and valve parts and patching cement.

THE Shamrock Gloria is the original grooved V-shaped Rubber Belt, and in regards both to quality and construction is safely without a serious rival. The fact that almost all manufacturers of high-grade motorcycles in Europe and America have adopted the Shamrock Gloria as their standard for belt drive proves sufficiently its superiority. The advantages of this belt are gripping power, flexibility and cleanliness. It is non-slipping, weatherproof and troubleless.

The N. S. U. puncture proof bands are made of pliable but especially tough pure rubber with finely bevelled edges. This band fits between the cover and air tube, and protects the latter against outward influences, in the shape of nails, glass, etc.

THE N. S. U. belt punch is a high-class product made of the best hardened steel, which is used to accurately punch the holes into the V belts to enable the fasteners to be quickly inserted.

THE N. S. U. Company also manufactures non-skid bands, as illustrated here, belt links, inner tubes and tires. There are four types of the latter, namely, the Peter Union, the Standard Tread, the Basket Pattern, the Steel Studded Non-Skid, and the Shamrock Excelsior Rubber-Studded tire, all of great strength and wearing quality. The N. S. U. Motor Company, 206 W. Seventy-sixth street, New York, handles many other accessories.

"IDEAL" Motorcycle Oil, manufactured by W. S. Sheppard, Newark, N. J., has achieved a reputation, here in the East, for perfect scores in endurance runs. It is needless to elaborate upon the importance of proper lubrication, and "Ideal" oil fills the bill in every particular.

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A **TWO-SPEED and free engine device so popular as to have created a demand far in excess of the expectation of its makers, is the "K. and R.," manufactured by Keller and Risque, St. Paul, Minn. The "K. and R." conversion set doubles the efficiency of any motor, makes it possible to stop and restart at will without dismounting, either on level road or the steepest hill, by means of the free engine and slight foot pressure of the low-gear friction clutch lever; enables rider to slow down or even come to a dead stop, and restart without pedaling; makes it possible to seat your passenger in side-car attachment, start your motor while standing, step astride your machine and by foot-lever pressure glide away as steadily as with an automobile; can be instantly thrown into low gear even after encountering deep sand or mud—it often being impossible to foresee this trouble until actually into it. Speed changes, free engine and band brake are all operated by foot levers.**

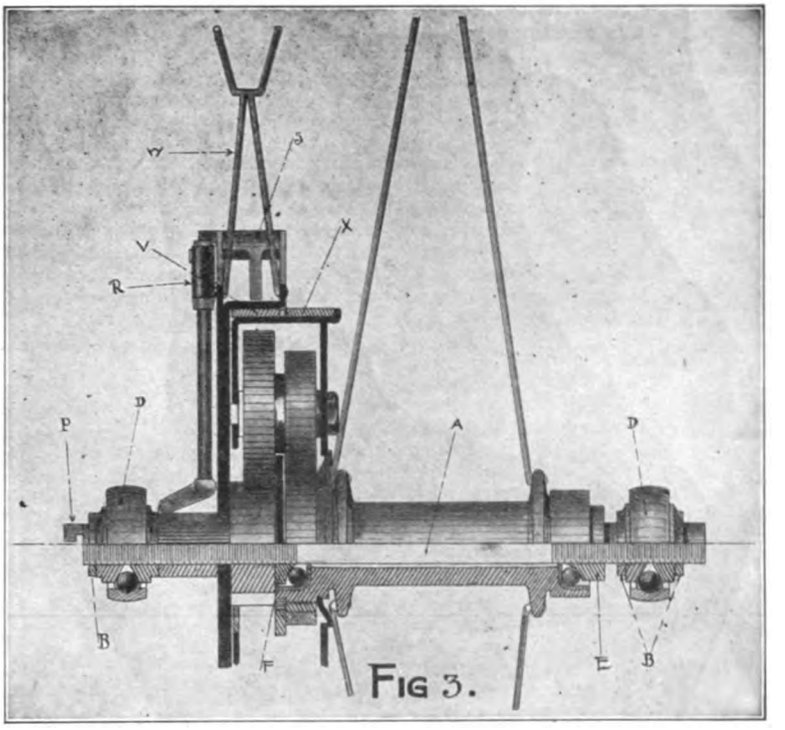
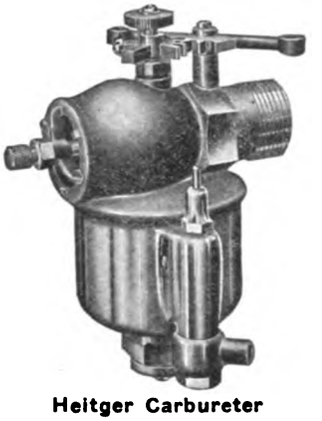


FIG 3.

Keller & Risque Two-Speed Gear

CONNECTICUT coils, manufactured by the Connecticut Telephone and Electric Company, Inc., Meriden, Conn., and sold by the United Manufacturers, Inc., Broadway and Seventy-sixth street, New York, are distinctive in that they can be operated on three volts or two ordinary dry cells. The majority of coils cannot be operated on less than three cells. The principal aim in designing this coil was to devise a product which would be small in size and which could be operated on two ordinary dry cells, inasmuch as this construction would materially reduce battery maintenance, be much neater in appearance, and require much less space, which at best is limited on a motorcycle. This coil is made up for both one and two cylinder engines as indicated in the price list.

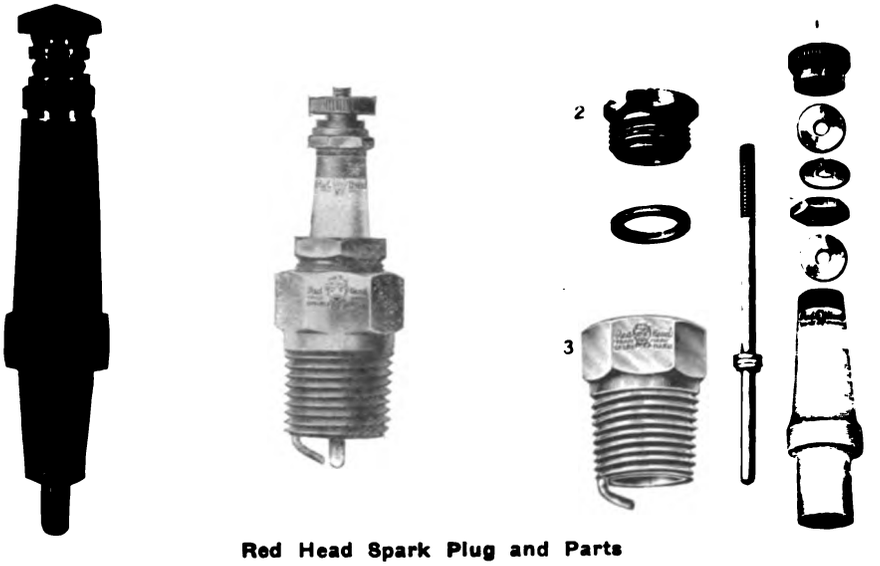


Heitger Carbureter

Empire Tire

RED-HEAD SPARK PLUGS are made and marketed by the Emil Grossman Company, 232 West Fifty-eighth street, New York City, and the design, as shown by the illustration, is along the accepted lines of spark-plug construction, with features embodied therein designed to give special results to the user. The porcelain cores are made of a special clay, aged for nine months by a new process which does not make them brittle. These are then formed and baked, and can be thrown with great force against the floor or a hard surface, but will only rebound and not break. Under a red-hot heat it is asserted they do not even bend.

The shell or base is substantial and compact, turned from solid steel, with a solid brass bushing nut to surround the porcelain or mica core. The bushing may be forced down upon the shoulder of the porcelain to make a tight joint. One copper asbestos washer is used in packing the core into the shell, and sufficient packing is used to prevent its blowing out. Still another feature is in the electrode, which will stand any heat from either a magnet or battery and coil. The shell is so made as to permit the interchange of porcelain and mica cores.



Red Head Spark Plug and Parts

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THE Reliance spark plug is, if anything, essentially a motorcycle plug, and the manufacturers, the Jeffery-Dewitt Company, of Newark, N. J., realizing its adaptability in this field, have brought out a specially constructed plug in which the porcelain is stubby and thick set, so as to make it practically indestructible. Five reasons are advanced why motorcyclists should carefully consider it, to wit:

A motor equipped with Reliance plugs starts easily; battery consumption is reduced to a minimum; neither moisture, fog, or rain interfere with the operation; its construction is such that it is impossible to short circuit it with any fouling matter found in an engine cylinder; the extreme simplicity of its construction, and the ease with which it may be taken apart for examination is a prominent feature. Although offered to the trade for a comparatively short period, this plug has met with great favor, and already enjoys a large sale.

The manufacturers have issued a little booklet, "Something About a Spark Plug," describing in detail the plugs of their manufacture, which will be mailed upon request.

GOODRICH ribbed tread tires, manufactured by the B. F. Goodrich Company, Akron, Ohio, are of the moulded form of construction, with four plies of fabric. In other words this Goodrich product is built like an automobile tire, having strength without cumbersomeness, and resiliency without any fragile parts.

The fabric is of the best grade, close woven, and so prepared as to secure perfect adhesion between the tread and the fabric. The clincher bead is reinforced to insure against rim cutting or breaking away. In fact, these tires are made with precisely the same care, and of the same high-grade materials as the famous Goodrich automobile tire.

In addition to tires, this company also manufactures grips and rubber V belts.

F. A. BAKER & COMPANY, 37 Warren Street, New York, distributors for the Indian and Pierce in Greater New York and Long Island, are specialists in the accessory business. They claim to have "sifted the wheat from the chaff" and thus prepared a catalogue of real value to the trade and the rider. The members of this company are experienced and reliable men, and purchases made from them are sure to prove productive of good returns.

But, in addition to the hundred and one good things that they handle, F. A. Baker control and exclusively market a ball-bearing chain idler with which they have had great success. It is fully described in their catalogue.

THIS illustration shows a very soft and pliable glove made of horsehide, and selling at $1.25 per pair, manufactured by the O. C. Hansen Manufacturing Company. For those desiring a durable glove without gauntlet, this is a fine proposition. It will outwear any other leather glove made, not excepting buckskin, and it is distinctive in that it will not become stiff

or hard no matter how often it may become wet, or may be washed, which can be done with a little gasoline or soap and water. In addition to this style, this firm is making a full line of motorcycle gauntlets, a descriptive price list of which will be sent upon application to the O. C. Hansen Mfg. Co., 337 East Water street, Milwaukee, Wis.

INDIANAPOLIS, famed as a tire-producing city, is the home of the Heitger Carbureter Company, of 208 West South street, which manufactures an efficient "breathing" device for motorcycles. The Heitger Model C carbureter, 1909 make, has a mechanical control over the gasoline feed to mixture; the gasoline is positively fed to mixture, according to throttle opening and air admission. The throttle lever has a segment of a gear integral with it; this gear meshes into a similar one on the mechanical control member. The gear segment has a long shank, threaded to work in a nut. The gasoline adjusting stem is threaded into the gear segment. The lower end of stem is tapered to act upon the small feed hole in spray nozzle, and control the flow of gasoline into carbureter mixing chamber. The gear segment, being threaded into a nut, is screwed up or down as throttle is opened or closed, admitting more, or less gasoline as the case may require.

KOKOMO tires, manufactured by the Kokomo Rubber Co., in the Indiana city of that name, are made of a special closely woven Sea Island fabric, with a rubber that absolutely sticks to the cloth and at the same time withstands the severest obstacle with which a tire ever comes in contact. The Kokomo people advocate the moulded single clincher type, and use a special hard rubber bead in making the clinch, which has but little stretch, just enough to get it on the rim, and the rider need have no fear of ever rolling one of these tires off, unless, of course, he rides his tire too flat. The latest from the Kokomo factory is the "Gridiron" non-skid, illustrated above; a tire well worth looking into.

AMONG the other New York centres of motorcycle activity are the places of the following: Hastings and Miller, 118 Nassau street; Tiger Cycle Works Company, 782 Eighth avenue; Prospect Motor Company, 1900 Broadway; Jenkins' M. M. agency, 8 W. Sixtieth street; George V. Lyons Motor Company, Broadway, near Eighty-seventh street, and McLaughlin and Ashley, 206 West Seventy-sixth street.

REPAIR PEDAL.

WHEN a motorcycle falls, it is almost sure to result in breaking off a pedal. If this happens it is but a moment's work to replace the broken pedal with an Adams Quick Action repair pedal. The repair thus made gives the rider control of the brake and a rest for the foot. By a peculiar design of this repair pedal the machine can be pedaled without wearing out the rider's shoes, yet the corrugations do not allow the foot to slip off sideways. The Adams Quick Action motorcycle stand fits any motorcycle. A touch of the foot raises or drops it instantly. It is perfectly rigid under the heaviest machine and rider. There are no springs to stick, no clamps to get loose. It can be so attached as to be instantly removable for racing.

STAND.

These two valuable accessories are manufactured by the Henry T. Adams Company, 6846 South Park avenue, Chicago.

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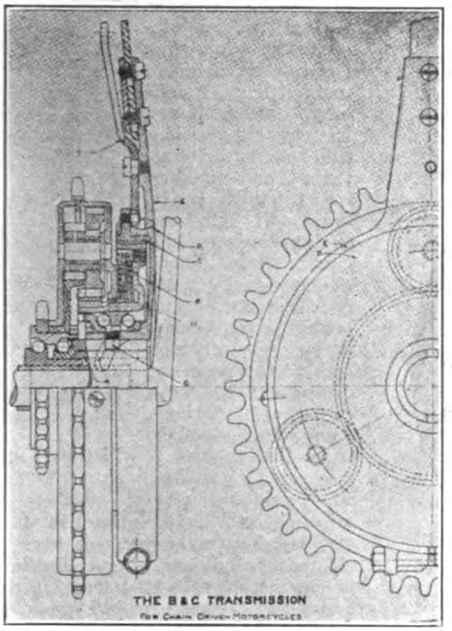
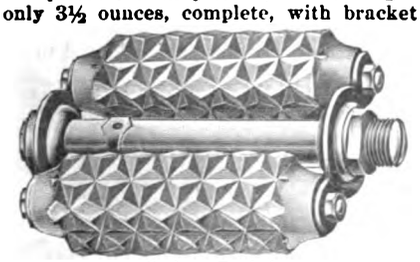


BUSHNELL & CANNON, 1268 East Eightieth place, Cleveland, O., are makers of two speed gear, illustrated herewith, designed to be attached to any chain-driven machine of the counter shaft type. The device is constructed on the planetary system, with gears and pinion enclosed in a dustproof case and running in a bath of oil, thus insuring perfect lubrication at all times and consequently long life of all bearing parts.

High speed is obtained by means of the multiple disc clutch, which insures a flexible control and a positive drive. A two-point ball bearing carries the load on the high speed and so takes the thrust of the multiple disc clutch. Low speed is obtained by means of the band clutch, C, which operates to hold stationary the drum, H, having attached to its inner hub the low speed gear, I.

Operation is by means of a lever attached to the shifting ring, E, and working in a quadrant clamped to the upper tube of the frame. When in extreme forward position the motorcycle is driven at a speed normally obtained through the regular gearing of the sprockets. The reverse position of the lever gives a reduction of 50 per cent from speed obtained with lever in forward position. When lever is in intermediate position the engine runs free, all of these results being obtained from a single lever with but a simple forward and backward movement.

THE Ovico electric searchlight comprises the lamp itself, which weighs only 3½ ounces, complete, with bracket



Ovico Pedal

to attach to machine, double cell storage battery of four volts compactly contained in a heavy celluloid case, from which the contents cannot be spilled, and a metal case to contain the whole battery and brackets to attach to machine. The battery will operate the lamp for over ten hours, and may also be used to operate an electric siren which can be fitted. If the machine is a battery machine the storage could be used, in case of emergency, to operate the motorcycle.

The Ovico everlasting pump connection is unusually well put together. Surrounding the pure soft rubber tube is a braided linen covering to prevent the rubber tube stretching under the air pressure, and over all is an armored covering of spring steel wire to protect the connection.

The Ovico "one-minute" tire levers consist of a set of three very ingenious tire levers for motorcycle tires. One of the good points of these levers is that they hold themselves in position and leave the hands free to remove the tire or insert another lever. The Ovico imported motorcycle pedal is made in England of the very best material. The pedal axle is of unusually tough steel and will not break, even if the machine falls. There is also a slot in the end of the pedal axle, so that same may be removed with a screw driver. The Ovico ball-bearing siren attaches to front wheel of machine and operates from the front wheel. It is pulled into contact with the front tire from the handlebar. It has ball bearings and is very well put together. All of these specialties and scores of others may be had of the Ovington Motor Company, 2234 Broadway, New York.

THIS is the Empire Peerless Motorcycle V Belt, manufactured by the Empire Tire Company, of Trenton, N. J. This is treated in such a way that the belt will, in use, be practically free from stretching. The rubber cover is such that it will give the greatest possible service. The prices are very attractive.

DESCRIBED and illustrated in our May 1 issue, the Torpedo tandem attachment, made by the Hornecker Motor Mfg. Co., Geneseo, Ill., need not be elaborated upon here. It is comfortable, reliable and, though mounted on springs, is sold at a reasonable price, viz., $15. Those who seek the pleasures of companionship awheel should write to the Hornecker company for particulars regarding this useful piece of equipment.

CASINGS of Morgan and Wright tires, manufactured in Detroit, are made of a special closely woven auto fabric, strong and easily repaired. These cas-

Basket Weave on M. & W. Single Clinch Rim.

ings are formed in the making to the shape which they will assume when in use. Other characteristics of M. and W. tires are the following:

An inner tube of superior quality, made of several plies of rubber, giving a seamless, built-up tube which is stronger than a single-ply tube; a tire which is easily applied and removed, because it is not necessary to shape it with the hands; a complete tire, embodying all of the good ideas developed by several years' experience in manufacturing a satisfactory automobile tire.

Morgan and Wright also manufacture the well-known Butt-End tubes, and other rubber accessories.

ERIE float feed carbureters, a cut of one of which is printed herewith, are a high-grade product, sold by the Motorcycle Equipment Company, Hammondsport, N. Y., at a very low price. This concern publishes a 40-page accessory catalogue, listing upward of one hundred articles. The catalogue will be sent upon request. Further, C. L. Waters, secretary and manager, writes:

"We are headquarters for all V-belt goods, to change that old flat or round belt into an up-to-date 28-degree V-belt. We have the rubber belts in all sizes; the Watawata style open construction V leather belts and the fibre block Erie patented V belt. We have all sizes of motor pulleys, ready to drill to fill any size shaft. We carry a full line of rear pulleys to fit all sizes of belts.

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NEVEROUT is an oil lamp which, showing a red rear light, is a combination of head and tail light in one instrument. The Neverout, made by the Rose Manufacturing Company, 933 Arch street, Philadelphia, Pa., burns kerosene oil 10 hours on one filling, and it is guaranteed to stay lighted under all conditions. It is sold on ten days' trial, an offer which indicates that the manufacturers have the utmost confidence in their ability to "make good." This lamp is equipped with a patent glass-covered reflector, made of pure German silver, which does not lose its original brilliancy. The lamp itself is made in gun metal, brass and nickel finish.

HASTINGS & MILLER, 118 Nassau street, New York, are putting out a new soap, guaranteed to do justice to the worst combinations of grease, dirt and grime. Ten cents brings to the sender a full-sized sample.

Morgan & Wright Bailey Tread

ONE of the most popular agencies in the country is that of Frank B. Widmayer Co., 2312 Broadway, N. Y. Mr. Widmayer, who is agent for the Indian and Harley-Davidson machines, also deals very extensively in accessories and supplies. He has just published a most comprehensive catalog, listing, among others, the following parts, etc.: Ampere meters, bags, handle bars, battery boxes, battery plugs, batteries, belts, belt fasteners, belt punches, belt rims, books, brackets, carriers, carbureters, carbide cans, chain idlers, chain repair tools, chains, clips, coaster brakes, coils, control wrenches, cushion forks, cyclometers, cyclometer brackets, electrical fittings, emergency pedals, enamel, exhaust whistles, gasoline injectors, gasoline shut-offs, gauge oil, gauntlets, gloves, goggles, grease, grips, horns, hubs, lamps, lamp brackets, leggins, magnetos, oil tank pump, oils, patches, pedals, pliers, spark plugs, among them the Hedstrom, illustrated herewith; pocket carbide cans, pumps, repair bands, repair links, repair chains, rough rider grips, saddles, speedometers, stands, switches, tandem attachments, tanks, tires, tire irons, tool boxes, tool bags, tool boxes, toe clips, tricar brackets, tubes, tube cells, two-speed gears, valve grinding compound, valve lifter, variable speed pulleys, whistles, wire and wrenches.

The Lowest Priced Tire!

is the tire that wears the longest—costs the least for upkeep—the tire that can be repaired. That's the Goodyear Strong Fabric Motorcycle Tire.

You can travel farther on a Goodyear than on any other.

Our Strong Fabric Motorcycle Tire is made to *last longer*—not to sell cheaper—than other motorcycle tires. In the Goodyear Tires only the finest *new* Para rubber is used. It is quoted at $1.20 today. We could use "Lapori" or "Guayule" rubber that sells at 35c per pound, or even "reclaimed" rubber from the junk pile—old boots, overshoes and garden hose out of which the life has been burned by heat and acid. We could get *this* kind of rubber at 10 cents a pound—but it *won't do for a Goodyear.*

We also use the famous Egyptian Fabric, which costs 33 cents a yard. We could use common muslin at 5½ cents a yard. But common muslin breaks at 40 to 60 pounds, while it requires 300 pounds to break Egyptian Fabric.

The demands on the motorcycle tire are more severe than on any other kind.

The tire that goes to the junk pile after a little use is not the lowest priced tire—no matter what it sells for. A new tire then has to be bought, doubling the expense.

GOODYEAR STRONG FABRIC MOTOR-CYCLE TIRES

We can furnish these tires in either single or double clinch.

THE GOODYEAR STRONG FABRIC MOTOR-CYCLE TIRE

Goodyear Strong Fabric Motorcycle Tires can be permanently repaired. Some motorcycle tires are "done for" just as soon as they are slightly damaged. The wise motorcyclist who figures up the cost at the end of the season knows that the Goodyear is really the lowest priced tire on the market. It will outwear several pairs of the ordinary kind. Because it has the Goodyear Tough Rubber Tread—the strongest made—united to a pure, soft Para rubber inside so perfectly as to be in effect one piece. This is strengthened by being woven into our special close-woven Strong Fabric—four-ply—which makes the tires not only very durable, but of such construction that repairs can easily be made.

We also have a special thread fabric for racing purposes. This tire is built for speed, and is especially adapted to racing where a resilient tire is required. With all their strength and durability, the Goodyear Motorcycle Tires are the most resilient, easiest riding tires made. We can furnish these tires in either Single or Double Clinch.

Moulded type Single or Double Clinch Red Seal Tube.

The Goodyear Tire & Rubber Co., Mott St., Akron, O.

Branches and Agencies:
San Francisco, 698 Golden Gate Ave.; Chicago, 80-82 Michigan Ave.; Cleveland, 2065 Euclid Ave.; St. Louis, 712-714 Morgan St.; Buffalo, 719 Main St.; Detroit, 251 Jefferson Ave.; Memphis, 181-5 Madison Street; Portsmouth, Cincinnati, 817 Los Angeles, Philadelphia, New York City, Broadway; Atlanta, 80 Fryor Street; Centre Avenue; Washington, 1026 Connecticut Avenue; Louisville, 1049-51 Third Street; New Orleans, 706-16 Barrone Street; Akard Street; Denver, 25 West Colfax Avenue; Baltimore, 851 Park Avenue; Kansas City, 16th and McGee Streets.

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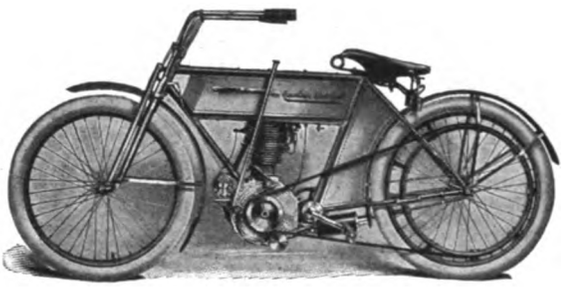
MORE PROOF

A Roadster King, the Peer of all Machines, with respect to its Durability, Strength and Staying Qualities, is the

Excelsior Auto-Cycle

A "Safe and Sane" Machine



It Always Brings You Back Home

In New York Club's Centuries, Sunday, the 9th of May, Six Excelsiors Started, Six Excelsiors Finished.

All had perfect scores. Three of the Excelsior riders came from Bridgeport, Conn., made the run and returned to their homes, without the slightest accident.

324 Miles in 36 Hours

AGENTS! Here's a Machine to SELL

Excelsior Supply Company

233-237 RANDOLPH STREET - - - CHICAGO

STANLEY T. KELLOGG

Eastern Distributor

2233 BROADWAY NEW YORK

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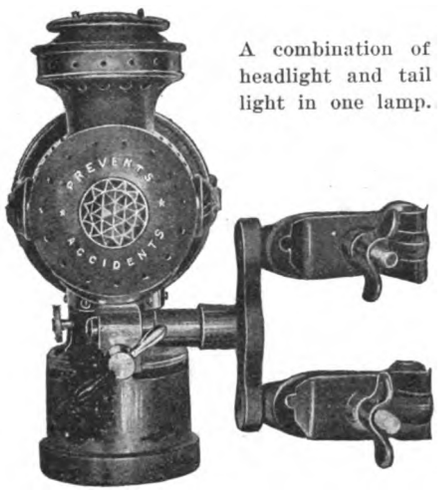
The Neverout TRADE MARK Motorcycle Oil Lamp

Showing a Red Rear Light



A combination of headlight and tail light in one lamp.

The Neverout Motorcycle Lamp, with combination tail light, showing rear view. (Patented)

The Neverout burns kerosene oil 10 hours with one filling and will stay lighted under any and all conditions.

All riveted—will not rattle apart over the roughest roads.

Sold on ten days' trial. Price $3.00 complete.

The Neverout is equipped with a patent glass-covered reflector, made of pure German silver; never loses its original brilliancy; instantly removable. Guaranteed to stay lighted or money refunded.

Made in gun metal, brass and nickel finish.

The only perfect and reliable motorcycle lamp made.

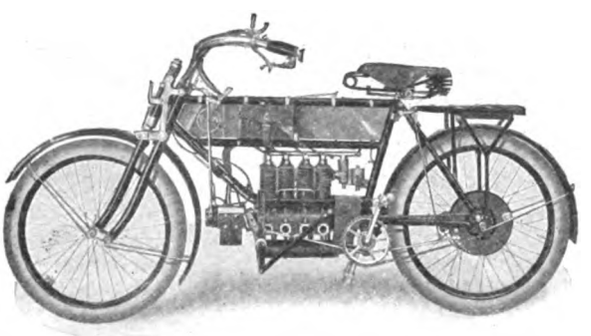
If your dealer cannot supply you, write us direct.

Dealers: Write at once for our proposition.

Rose Manufacturing Co.

933 ARCH STREET PHILADELPHIA, PA.

FIRST PHOTO OF THE F. N. BIG FOUR, 1909 MODEL



THIS is the 1909 model of the F. N. Big Four. The principal points of difference between this and the 1908½ model, which was brought out at the latter part of last year, are as follows: Instead of an internal expanding drum brake and a rather inefficient rim brake, which was formerly put on to comply with the law in Europe that there must be two brakes on each motorcycle, the F. N. Company now fits the machine with external contracting band brake, acting on the same drum as is used by the drum brake. The standard equipment is foot rests and pedals. The lever which lifts the exhaust valve has been changed from the right to the left grip, and the lever which formerly lifted the exhaust valves now operates the band brake.

In other words, if for any reason the foot brake is out of commission, the brake may be applied from the handlebar. This is convenient, as often a fall will bend the pedals so badly that the foot brake cannot be applied. The engine of the new model remains of the same capacity, although, on account of the fact that the pistons are made lighter and there are some slight changes in the carbureter, the machine is quite a little faster on the road. The two-speed sliding gear transmission is given as an extra. The system of transmission is considered by the manufacturers of the F. N. as being much more efficient than the usual planetary type employed on other two-speed gear motorcycles. The 1909 machine has an unusually heavy rim and spokes as well as very large tires. The F. N. is sold in this country by the Ovington Motor Company, 2234 Broadway, New York.

W. H. WELLS has taken over to England a few Indians. These machines will be entered in the big runs and hill-climbing events, with a view simply to making these competitions a little more interesting to those British makers who have hitherto had matters all their own way. However, the Hendee people are not bragging, nor do they profess to do any more than try. The establishment of an Indian agency in London will depend entirely upon the measure of success of Wells' trip.

Chicago.—The Bullock-Wait Company, 86 Lake street, has secured the local New Era agency.

Following is a list of six dealers who have recently secured N. S. U. agencies: Gus. Habich, 142 East Washington street, Indianapolis, Ind.; Louis Flescher, 1622 Capitol avenue, Omaha, Neb.; G. De Gruchy, 1243 N. High street, Columbus, Ohio; Clarke Motorcycle and Auto Repair Co, 1814 Chestnut street, St. Louis, Mo.; M. B. Glason, 107 Post Office Court, Minneapolis, Minn.; Merridith & Guthrie, 63 W. 3d street, South, Salt Lake City, Utah.

Springfield, Mass.—Fire in the boiler room of the Hendee Manufacturing Company caused slight damage the other day. The flames were extinguished without much trouble, principally through the use of chemicals.

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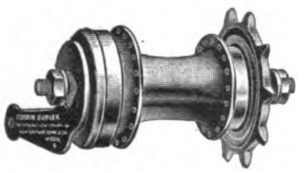
WATCH THE CORBIN

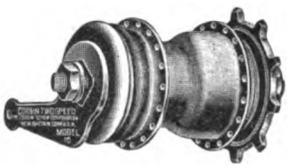
Corbin Duplex



Coaster Brake Model 8

Ask for Model 9

Corbin Two Speed



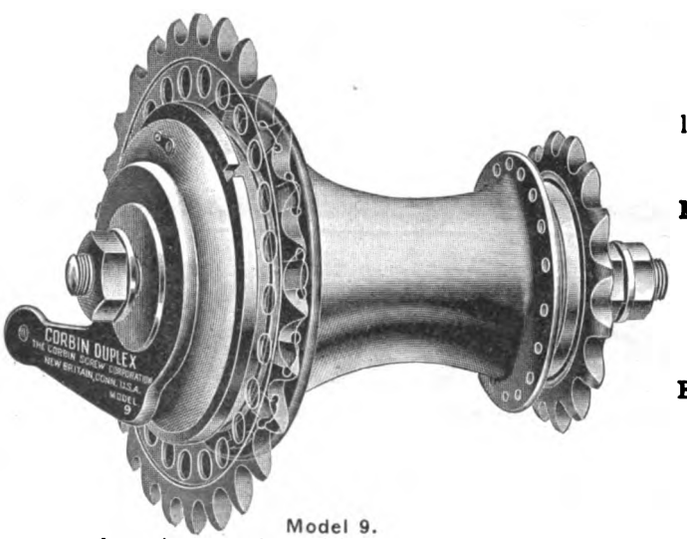
Coaster Brake Model 10

Motorcycle Coaster Brake

Built Throughout for Motorcycle Use.

½ inch Axle. Larger Bearings, giving longer life.

The Inside Diameter of the Brake Drum is 3 Inches, with Brake Shoes ½ inch wide, giving double the Braking Surface of Any Other Model.



Model 9.
Any size sprocket, either ⅛ or 1 inch pitch.

COMPLETE CATALOGUE ON REQUEST

Model 9 is 5⅜ in. long outside of cones 1 15/16 chain line.

Model 9A is 6⅜ in. long outside of cones 2¼ chain line

Made for either Belt or Chain Drive Motorcycles.

Heavy Front Hub to match.

Licensed Coaster Brake Manufacturers

HIGH STREET, NEW BRITAIN, CONN.

CORBIN SCREW CORPORATION

Kindly always mention the paper when writing advertisers.

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ENTRY blanks have been sent out for the Second Annual Hill Climb of the Yale University Automobile Club, to be held on Wednesday, May 26, at "Shingle Hill," West Haven. "Shingle Hill," which was used last year for the first climb of the Yale Club, is a winding road of hard macadam, admirably adapted to the purpose. It is easy of access, being located only a quarter of a mile from the Boston Post Road and the West Haven Green. The course is about 5,000 feet long. It consists of an abrupt grade at the start, a short, level stretch at the end of which is a sharp S-turn around a point of rocks, and a steep climb to the finish. The grade varies from level to 20 per cent.

Practice will be allowed on Saturday, Monday and Tuesday preceding the climb, between the hours of 2 P. M. and 5 P. M. There will be three motorcycle events, as follows:

Class A—For motorcycles with piston displacement not over 30 1-2 cubic inches.

Class B—For motorcycles with piston displacement not over 61 cubic inches.

Class C—Free for all—no restrictions. Rolling start of 50 feet allowed.

ROBERT STUBBS, of Birmingham, Ala., riding an Indian from scratch, won the 5-mile motorcycle handicap at Montgomery, Ala., Thursday, 4th inst. R. L. Peacock (Yale), with ⅜-mile start, finished second. Time, 5.54 2-5. Stubbs also rode a five-mile exhibition in 5.38.

THE opening event of the Nashville auto meet, a 25-mile motorcycle race for the championship of Tennessee, was won by Stickley, on a Thor; second, Green (Curtiss); third, Hager (Excelsior); fourth, Duncan (Yale).

ON the 26th, at Los Angeles, the local club tendered a banquet to De Rosier and Fred Huyck. It was in the nature of a farewell reception. There were present two hundred members and friends of the club. The club also presented to Messrs. De Rosier and Huyck club pins, which they promised to wear. After the banquet they were entertained with a prize-fight between two good local fighters. An orchestra put the finishing touches to the occasion.

THE following are the results of motorcycle races recently held at Roswell Park, Colorado Springs: Five-mile race—A. W. Stratton, Excelsior, first; Birch Glaskin, Indian, second; time, 6.45. Pursuit race—Excelsior started scratch; Indian at ⅛ pole. Excelsior caught Indian in 2½ laps.

THE five-mile professional race at Los Angeles April 25th was officially won by De Rosier, although Lingenfelder was originally announced as the winner. There seems to have been a slight misunderstanding, De Rosier not having been informed that he was to be handicapped because of the greater horse power of his mount.

M. J. GRAVES, the former N. S. U. rider, has formed a business connection with C. W. Risden, the Los Angeles agent for the Indian. He will represent Mr. Risden and the Indian throughout his district. Huyck is now at his headquarters at Chicago.

ALL motorcycle records from Chicago to South Bend and return were smashed the other day by George Lyon, riding a five-horsepower Indian machine. The 224 miles were covered in the actual running time of 7 hours and 51 minutes.

Motorcycle Sundries

Bicycles — Bicycle Supplies

Our new 1909 Catalog now ready covers everything, motorcycles, bicycles, repair shop equipment and several side lines for wide awake bicycle dealers. It is Catalog B 30 and will be mailed upon request. Dealers' net price list to established dealers only.

Write today; there are many new things that will interest you besides all the staple lines.

Excelsior Supply Company

233-237 Randolph St. *Established 1876* **Chicago, Illinois**

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Thor Thor

YES AGAIN

This Time On The Road

Thor

The Motorcycle SUPREME

In The 100 Mile Run

Around the San Francisco Bay, April 24. A handicap Run, with THOR the only one starting from scratch, winning the Run. 4 THORS started, 4 THORS finished

100 Miles in 2 Hours 34 Minutes

over country roads. These road events count. That's where the Purchaser rides his Mount.

Aurora Automatic Machinery Co.

THOR Building

1309 Michigan Avenue, Chicago, Ill.

DISTRIBUTORS

BOSTON	NEW YORK	DENVER, COL.	CALIFORNIA
Motorcycle Spec. Co.	J. S. Leng & Sons	Fred. Williams	A. Freed
258 Columbus Ave.	Co., 33 Murray St.	224 Sixteenth St.	San Francisco Los Angeles

Thor Thor

Kindly always mention the paper when writing advertisers.

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MORGAN & WRIGHT

3 good reasons for selecting

They Are Long-Lived Tires

They are made out of the same materials and by the same process as an auto tire. This style of construction has proven by actual tests to make them much stronger than is absolutely necessary to stand up under even the most severe driving or skidding strains of motorcycling. ¶ This reserve strength which you buy in Morgan & Wright tires is of course returned to you many fold in increased mileage.

They Are Reliable Tires

Dependable tire equipment is absolutely essential to the fullest enjoyment of motorcycling. If was a fact that previous to the time Morgan & Wright tires were placed on the market the continual tire trouble which was then the motorcyclists' lot hindered to a considerable extent the development of this industry. Morgan & Wright tires will give you troubleless service.

Our painstaking system of inspection starts with the selection and rigid testing of the materials and continues up thru the process of compounding, building and curing, and ends only when the finished tire has passed thru its final inspection, being there put thru every conceivable test that will develop imperfections if any are ever to develop.

Morgan & Wright

Kindly always mention the paper when writing advertisers.

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MOTORCYCLE TIRES
them as your 1909 Equipment

Thus we eliminate the most fruitful cause of tire troubles—small defects in construction which are ater liable to develop into big defects.

They Are Now Past the Experimental Stage

A year ago we placed our motorcycle tire on the market, being the first manufacturers n this country to use the shaped wrapped style of construction. It was a radical leparture from the then accepted standard of material and construction.

Our tires made a big success and immediately jumped to first place. At he end of the season they were unquestionably the most popular ire on the market.

This year the other tire makers almost without exception have mitated this same style of construction. They may or may not make a success of it. Be that as it may, the question or you to decide in selecting your tire equipment for the coming season is—"Shall I experiment, or shall I buy he tire that has been thoroly tried by a year of he severest service on road and track and pronounced a complete success by hundreds of the oldest and most experienced riders?"

Any manufacturer or dealer will be glad to honor specifications.

Made in Corrugated, Bailey and Basket Weave Treads—Single or Double Clinch

Detroit Mich.

Kindly always mention the paper when writing advertisers.

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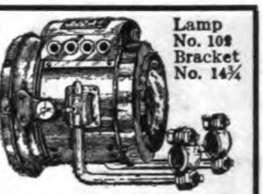
BI-CYCLE GAS Contained & Separate Generator

THE 20th Century MOTORCYCLE SEARCHLIGHTS

Mangin Lense Reflectors
Split Front Glass

FIRST IN STYLE AND QUALITY AND FIRST IN THE HEARTS OF THE MOTORCYCLISTS

Send for Complete List, Lamp Bracket Attachments, each and all Motorcycles



Lamp No. 109 Bracket No. 14¾

Automobile & Boat Lamps (See Catalogue) 20th Century Mfg. Co., 17 Warren St New York City

MOTORCYCLE MART—IT SELLS THE STUFF

Buy; Sell; Exchange. Two Cents a Word. Cash With Copy

FOR SALE OR EXCHANGE

FOR SALE—At a bargain; Single Cylinder 1908 model Curtiss, in fine running order. For information, address Wm. G. Lauterbach, Mendota, Ill.

HAVING BOUGHT 1909 model, will sell '08 Twin Indian, 5-h, in fine condition; good tires; will sell at sacrifice; $150 takes it. H. Tholen & Son, Victoria, Kan.

FOR SALE—One 1909, 3 3-4-h touring model N. S. U., with spring fork and magneto ignition; has not been run five miles; at a small discount. J. A. Richards, Louisville, Ala.

WANTED—Model 1909 Indian motorcycle; give full description and price to "Rider," Box 1183, Bisbee, Ariz.

ANYONE desiring to save $50 in purchasing new 1909 five horsepower, magneto ignition, loop frame, twin cylinder Indian; write to Carl W. Bush, Caldwell, N. J.

FOR SALE—Thor, 2 1-4-h motor, 1905 model, complete with carbureter; in good condition, just been overhauled; price $35. Write H. G. Hawes, Jr., Tech. Chambers, Boston, Mass.

WANTED—Secondhand side car suitable for four-cylinder F. N.; 20-inch frame, 26-inch wheels. Sidecar, care of MOTORCYCLE ILLUSTRATED.

FOR SALE—Two M. M., '08; one Thor, '08; one Indian, '07; in A-1 condition; sell cheap. C. E. Crout, Readville, Mass.

STOLEN—From Rockville Centre, L. I., 1909 twin-cylinder red Indian motorcycle, No. 20A094. Reward for information regarding same. Johnston, 2312 Broadway.

AGENTS CARDS, ETC.

WELCOME, Motorcyclists! When in Cincinnati you are one and all invited to make our place your headquarters. You will be heartily welcome. Special room fitted with every convenience for the tourist. Milton Motorcycle Co., dealers in Motorcycles and Accessories, 1003-5-7 Race street, between Canal and Court streets, Cincinnati, Ohio. 'Phone, Canal, 233.

MOTORCYCLES—35 second hand machines on hand, all makes; $40 up. Send stamp for illustrated circular describing them. Tiger Cycle Works Co., 782 Eighth avenue, New York City.

MOTORCYCLES thoroughly overhauled and repaired. Agents for Thor motorcycles, parts and sundries. Brazenor & Ruderman, 849 Bedford avenue, Brooklyn, N. Y.

M-M AND R-S MOTORCYCLES—East End Cycle Co., Highland & Beitler, near Centre Ave., Pittsburg, Pa.

FOR SALE—Motorcycle business in a good western city; good territory. Address X, care Motorcycle, Ill.

FOR SALE—The best receipt for filling tires; old tires made new; new tires made better; remit 25c in silver to J. L. Lucas, 1 Fox St., Bridgeport, Conn.

FOR SALE—Indian motorcycles, 25 machines, at $50, $75 and up; Twins, $150 up; all machines overhauled by us and fully guaranteed; let us know how much you want to spend for a machine, and I will send you data on best bargain prices. Full line new Indians; parts; repairing; storage, at F. Widmayer Co., 2312 Broadway, New York City.

ACCESSORIES at prices that will surprise you; send for our large catalogue. Motorcycle Equipment Co., Hammondsport, N. Y.

Princeton, N. J.—The Puch Import Company solicits correspondence from parties who would be in a position to help put the Puch 1910 models (September delivery) on the market in larger quantities than is possible at present.

Rome, Ga.—The Rome Garage Company, which will deal in motorcycles, autos and motorboats, has been incorporated by R. M. Hoyt, F. Hanson and B. C. Harbour. Capital stock, $6,000.

A. J. Oberwegner, formerly connected with the Oberwegner Mfg. Co., Toledo, Ohio, is now making good as a salesman for the Consolidated Mfg. Co., selling Yale machines.

Chattanooga, Tenn.—W. K. Deters, 15 East Seventh street, one of the oldest dealers in this vicinity, is this year handling the Yale, Excelsior and Reading-Standard.

Detroit, Mich.—The C. M. Hall Lamp Company is making a motorcycle lamp under the supervision of Mr. French, formerly of the American Lamp Co.

Joliet, Ill.—Burt A. De Lancey, president of the Joliet Motorcycle Club, has taken the agency for the Torpedo in this city.

Chicago.—H. T. Adams & Company are about to erect a new building for the manufacture of accessories.

PFANSTIEHL COILS

Guaranteed Absolutely for FIVE YEARS

Standard Equipment with:

Thor	New Era Mfg. Co.	Brown & Beck (Apache)
Consolidated Mfg. Co.	Torpedo	Reading Standard
Merkel-Light	Armac	Buda Foundry
Thiem	Fowler	Harley-Davidson

May we tell you why Pfanstiehl Coils enjoy this patronage? Write for particulars.

Pfanstiehl Electrical Laboratory, No. Chicago, Ill.

"K&R" CONVERSION SETS FOR ANY MAKE OF MOTOR-CYCLE

NEW 20 PAGE CATALOG NOW READY

KELLER & RISQUE, ST. PAUL, MINN.

Kindly always mention the paper when writing advertisers.

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Empire Tires

WEAR LONGEST

EMPIRE RAISED TREAD MOLDED MOTORCYCLE TIRES

THESE TIRES are extra heavy; made with heavy, closely woven fabric, and a lot of good rubber. They are tires that will give long and satisfactory service. With these tires we supply our molded, detached flap, which has proved such a great success with out automobile tires.

PRICE LIST

	26x2¼ in.	26x2½ in.	28x2¼ in.	28x2½ in.	26x2¾ in.	26x2¾ in.
Case.....	$9.75	$10.00	$10.00	$11.00	$12.35	$13.35

EMPIRE LIGHT MOTORCYCLE TIRE

This tire is of lighter construction than the molded tire, and is cured flat. It is, however, a thoroughly strong and serviceable tire. It is the best tire obtainable at the very reasonable prices charged.

PRICE LIST

	26x2¼ in.	26x2½ in.	28x2 in.	28x2¼ in.	28x2½ in.
Case.....	$8.35	$8.85	$8.25	$8.75	$9.25

EMPIRE MOTORCYCLE TUBES

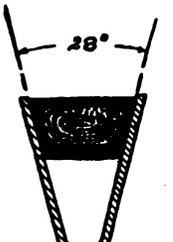
Strong, flexible, durable, practicable, non-stretchable. Made in four sizes for 28° pulleys only; length, 8 ft. 7 in.

We solicit a trial order, and are confident you will pronounce it the best belt you have ever used.

PRICES, Including Couplings

¾ in., $3.15. ⅞ in., $3.90. 1 in., $4.65. 1¼ in., $5.00.

EMPIRE PEERLESS V BELT



Both the endless and the butt-end styles are furnished in two grades and weights of rubber. The Empire gray tubes are of the standard thickness and weight, and made from fine Para rubber. The Empire Peerless tubes are made from red rubber, and are very much thicker, heavier and stronger than gray tubes. The Empire Peerless red tubes are put through a special process, which prevents deterioration. These are the best tubes that have ever been offered for motorcycle use.

PRICE LIST

	26x2¼ in.	26x2½ in.	28x2¼ in.	28x2½ in.	26x2¾ in.	28x2¾ in.
Gray Endless Tube	$2.25	$2.50	$2.50	$2.75	$2.75	$3.00
Red Endless Tube	2.70	3.00	3.00	3.30	3.35	3.60
Gray Butt-End Tube...	3.00	3.25	3.25	3.50	3.50	3.75
Red Butt-End Tube....	3.45	3.75	3.75	4.00	4.10	4.35

Empire Tire Co.

TRENTON, N. J.

Kindly always mention the paper when writing advertisers.

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MOTORCYCLE MESSENGER SERVICE IN SUCCESSFUL OPERATION IN INDIANAPOLIS

INDIANAPOLIS, Ind.—The most extensive use of motorcycles here is made by the Motorcycle Messenger Service, one of the few concerns of its kind in the country. Now that the service has been in operation for more than six months, figures relative to its cost and the wide possibilities it offers are interesting.

The company, which is located at 148 Virginia avenue, and owned by H. A. Greer and Harry M. Greer, now employs seven messengers, two of whom operate motorcycle package delivery machines. The other five are all one-cylinder, 3½ h. Harley Davidsons. The service is so arranged that three of the messengers are on duty all night.

The cost of starting the business was approximately $2,000, of which about $1,000 was spent for motorcycles. This includes the amount spent in equipping the concern with a complete outfit of tools for making repairs, office furnishings, etc. A young woman receives telephone calls during the day, while a young man is on duty at the desk during the night.

Uniform charges are made for delivering messages and packages, no difference being made for night service. The transient rate is a minimum fee of fifteen cents for a distance not to exceed one mile, with an additional charge of five cents for each succeeding five blocks or portion thereof. The contract rate, for business concerns, is a fee of one cent a block, with a minimum charge of ten cents. The company has just opened a special department for shopping and marketing for patrons.

Recently the company closed a contract for delivering all messages for the City Hospital. These messages are sent to inform relatives of the arrival or death of patients at the hospital. The company also delivers perishable goods for the express companies at nights.

A large part of its package business is delivering for companies that do not have sufficient business to employ regular delivery service. At times considerable business is also obtained from the department stores when their wagons are crowded beyond their capacity.

The capacity of the motorcycles is estimated at about 100 messages or packages a day per machine, except in unusual rushes, when the machines are crowded far beyond this amount. During the Christmas holidays, one package machine delivered 400 boxes of candy for a candy store in one day.

The Empire Automobile Tire Co., Trenton, N. J., announce that in the future its firm name will be Empire Tire Company. This indicates that motorcycle tires are beginning to play an important part in the Empire Company's business so much that the "Automobile" had to be dropped. The new style is more comprehensive, yet briefer.

A hundred new and fifty staple parts and accessories are listed on the 1909 catalogue of the Motorcycle Equipment Co. of Hammondsport, New York. This is a valuable catalogue. It is sent for the asking to riders and agents.

The Michigan Autocycle Company is handling the Indian, Cleveland and Harley-Davidson in Port Huron, Mich.

Morgan & Wright can be justly proud of the fact that their motorcycle tires have been chosen by the U. S. Secret Service Dept. as equipment on the two machines used by President Taft's special body guard. Absolute reliability is of course of prime importance in this service.

Chicago.—H. P. Hansen, formerly with the Arnstein Company, has taken a store at 1732 N. Clark street, where he will handle the Merkel-Light and a general run of supplies. The style of the firm will be Chicago Cycle Supply Company.

Charlestown, Mass.—Ira C. Hand has opened a store here. He handles motorcycles and supplies.

The Goodrich Rough Rider Grip

"Made to fit the hand"

Notice the construction and what it affords:

The extension of the Rubber Grip beyond the end of the hand is the prevents vibration. The nuts is protected against Shocks and Jars. The corrugations absolutely prevent the hand slipping. A [illegible] reinforcement prevents breaking

Length of Grip 5 inches

Standard size fits 1 inch handle bar

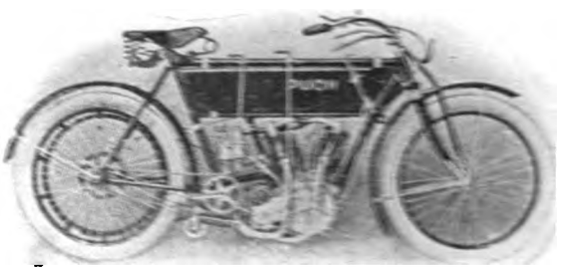
Price $1.25 per pair

SOLD BY ALL DEALERS

The B. F. Goodrich Company

Akron, Ohio

PUCH MOTORCYCLES



PUCH IMPORT COMPANY, Princeton, N. J.

PROSPECT MOTOR CO.

1900 BROADWAY, NEW YORK

Manufacturers of

SIMPLEX MOTORCYCLES

SIMPLEX ACCESSORIES

Our Line Shows Experience Not Experiment

Special Motor in Every Description

MR. RIDER, What Are Your Requirements?

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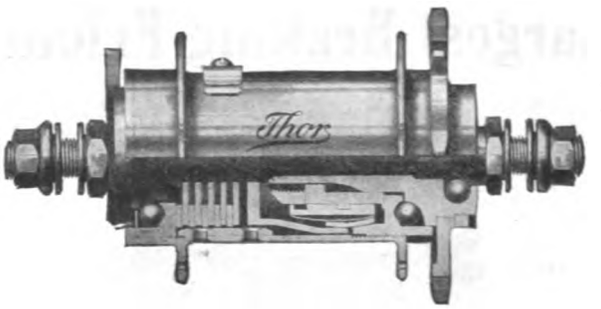
Thor
TRADE MARK

IF you see this brand on your Coaster Brake Arm you then know that the Manufacturer who made your Motorcycle has given careful study to your Safety and Requirements.

Thor COASTER BRAKES

Are Built for the Work

16½ sq. in. Braking Surface



Positive Brake a Free Coaster

Works Like a Multiple Disk Clutch Used in Autos

Aurora Automatic Machinery Co.

Thor Building

1309 Michigan Avenue **CHICAGO, ILL.**

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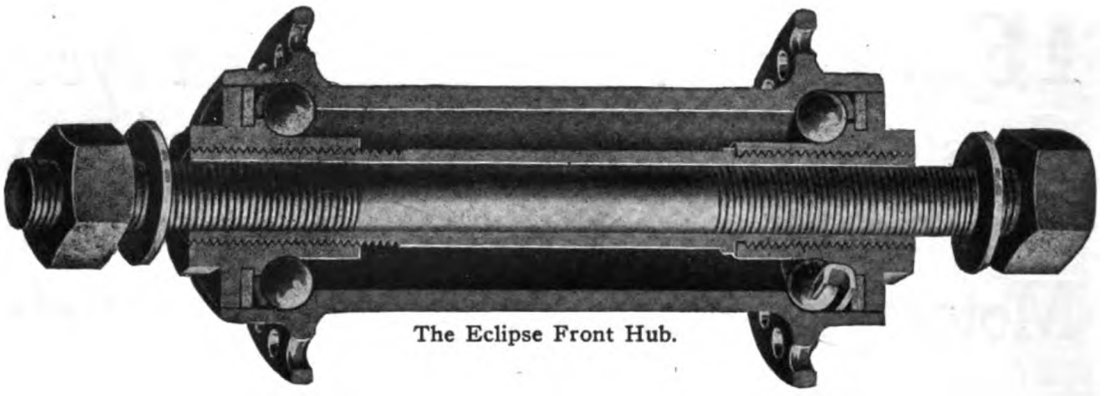
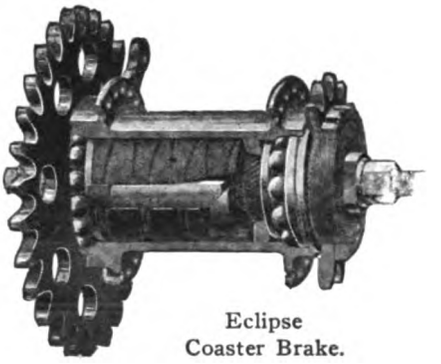
The Others Are Only Shadows of The Eclipse



The Eclipse Front Hub.

The Eclipse Motorcycle Coaster Brake, Though the Lightest, the Neatest and the Simplest, Has the Largest Braking Friction

Our Front Motorcycle Hubs, illustrated above, have been greatly improved by the use of the knock-out axle. The ball cups of the hub shell are turned from bar steel and accurately ground. The cones are turned from special cone steel and are screwed on a central quill with wrench-tight fit. The axle passes through the quill, thus making possible easy removal of the wheel.



Eclipse Coaster Brake.

The Eclipse Motorcycle Coaster Brake is the first of its kind designed for motorcycle use. The mechanical principles are similar to those used in the Eclipse Bicycle Coaster Brake—the screw, the wedge and the lever. The Eclipse is made from 3-inch round bar stock, and it runs and coasts on perfectly designed ball-bearings. Special attention has been paid to lubrication.

WRITE US FOR FULL PARTICULARS

Eclipse Machine Company, Elmira, N. Y.

LICENSED COASTER BRAKE MFRS.

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Solar

Lamps-"SHOW THE WAY"

Solar Lamps and Generators are *different*. They are made up of the very best brass stampings, reinforced and riveted together (note that "riveted"). There is no solder to shake loose. Solar Lamps and Generators are made "right." They are the result of 12 years of experience in lamp construction. They are made in the largest factory in the world confined exclusively to lamp building. More than mere material goes into the manufacture of Solars. Careful thought, skillful workmanship, experience, knowledge of conditions to be met—all this is combined in the make-up of a Solar—together with the very best materials.

"The new Solar Headlight is a dandy." A rider so expressed himself recently. And it is. You can't buy a better motorcycle lamp for any amount of money. The Bausch & Lomb 4-inch mirror reflector that we put in this lamp makes it the *most powerful light* of its size there is—bar none. You can't shake a Solar to pieces. And once it is secured to the bracket we furnish to fit all standard machines you can't shake it off.

The Solar Generator was designed for use with the Solar headlight. It is made of the same selected materials, and by the same high-class labor. It is large enough to furnish the lamp with gas sufficient to burn a ¼-ft. tip ALL night. Our special brackets WILL hold. They won't allow the generator to rattle. The Solar is easily cleaned. Used and fresh carbide are separated—there is no waste.

Our old standby—Solar Bicycle Lamp—is still a favorite. Bicycle riders A L L prefer it, and many motorcyclists use it. For early spring and late fall riding it is just the thing. The weather then is too cold to make night riding a real pleasure. Still you do need a lamp—perhaps for an hour or two. The Solar is most economical and most satisfactory for this purpose. We have made and sold over a million of these lamps.

Badger Brass Mfg. Company

Two Factories:

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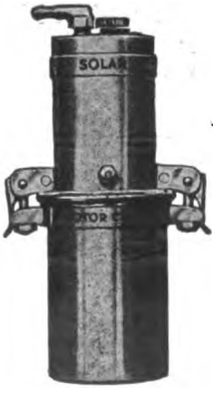

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Torpedo Motorcycles

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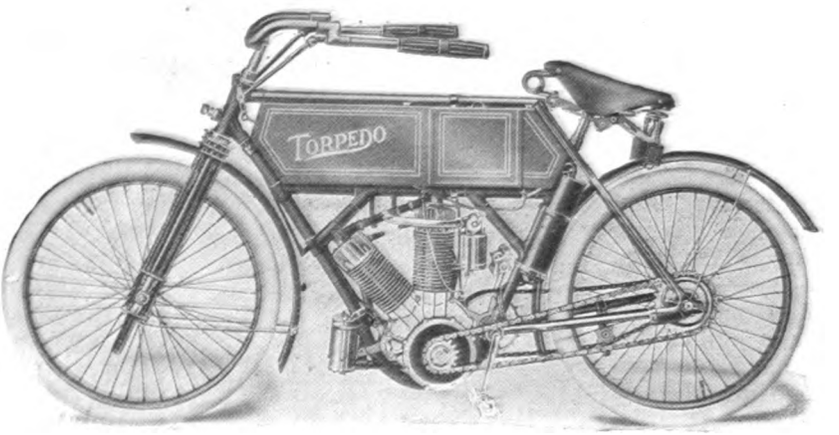

6 H. P. Twin. Model F

Notice its construction. Absolutely **Guaranteed.** Not only as good as, but better than any other make on the **Market.** Cheapest Motorcycle built.

You can make more money with the **Torpedo** than with any other make. **The Torpedo** sells itself. Write for our Agent's Proposition today and don't wait until tomorrow. Get into the game.

The Hornecker Motor Mfg. Co.

TORPEDO BLK. **GENESEO, ILL., U. S. A.**

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Voices from the Outside, Saying Things About

Mesinger Motorcycle Saddles

—the Only Saddles Provided with Shock Absorbers—

BEST FOR LONG DISTANCE

From a Dealer—

"We have tried out your No 4 Standard Motorcycle Saddle with shock absorber, and it is pronounced to be the easiest riding motorcycle saddle out."—The G. H. Westing Co., Indianapolis, Ind., Wholesale and Retail Dealers in Bicycles, Motorcycles and Sundries.

Illustrating large size Mesinger Motorcycle Saddle, cavalry type, No. 4 and No. 5.

Do not fail to investigate our New Spring System with Shock Absorbers.

All our Motorcycle Saddles are fitted with spring steel tilting clamps for ⅝-inch and ⅞-inch seat posts. There is only a little difference in price, but a large difference in comfort.

Have you noticed most of the **two, three** and **four cylinder machines** are equipped with Mesinger Motor Saddles because they have the right shape for comfort and are all fitted with fibre friction shock absorbers.

PATENTED
CAVALRY NO. 3.

From a Rider—

"After five years of motorcycle riding and using several different makes of saddles, I take pleasure in advising you that your No. 3 Cavalry, which I have ridden 2,000 miles or more, has been a great source of comfort. As I run a tri-car and use it every day, weather permitting, in my business in calling on the grocery trade, I feel that I have had the chance of giving the No. 3 Cavalry a severe test, and I am going to have the same saddle placed on my 1909 machine, which I expect any day."

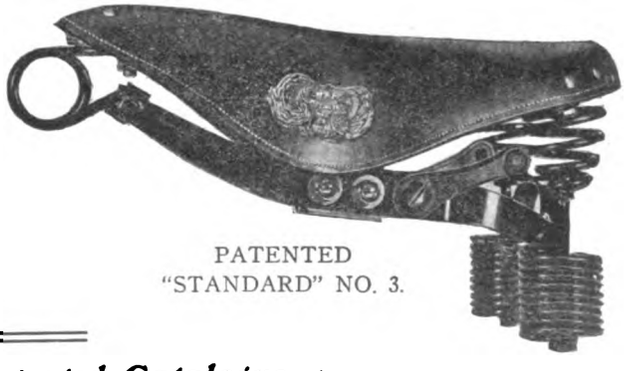
—Arthur Fritts, Boston, Mass.

The Mesinger Motorcycle Saddles have the correct shape for motorcycle use.

The Mesinger Cavalry Saddle is made like a horse saddle; it prevents you from slipping, and avoids that cramped hold of the hands on the handle-bars.

WE OFFER THE

Largest and Best Assortment of Motorcycle Saddles in the World



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Ask for Our New Illustrated Catalogue

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Don't Guess At It!

Be sure. Know how far you go—how fast you travel. The manufacturer of your machine tells you to "Give her a pump full of oil" every 8 miles, or 10 miles. You can't do it, unless you fit a Jones.

Use a Jones Speedometer

This instrument, with mileage indicator, is made of the same selected materials and by the same skilled workmen that make the famous Jones automobile speedometer. It has a 3 inch dial, 60 mile scale and season mileage indicator. It is built for motorcycle use—the hand is always steady. Buy a Jones—

"Accurate to a Whisper."

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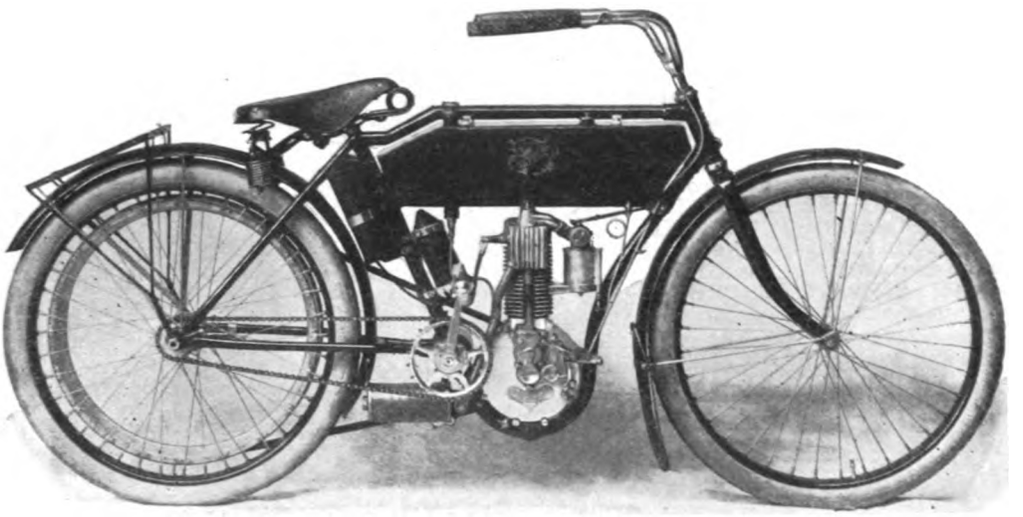
The MINNEAPOLIS DIRECT-DRIVE Model F B $185.00

60 Days Only $175.00

Thor Motor and very best equipment all around



MINNEAPOLIS MOTORCYCLE CO., Inc.

517 SOUTH 7th STREET **MINNEAPOLIS, MINN.**

The making or marring of a season's pleasure depends very largely upon the tires your motorcycle is equipped with

Every experienced motorcycle rider will tell you that it is to your best interest to SPECIFY

INDIANAPOLIS DOUBLE CLINCHER

G & J TIRES

Corrugated Tread

It means better service, more pleasure, and less tire expense. And when it comes to speed events or endurance contests Indianapolis G & J Motorcycle Tires never fail to carry off the honors.

Our catalogue illustrates not only our tires, but a lot of mighty useful accessories. Send for it.

G & J TIRE CO.

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Bailey Tread

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A MOTORCYCLE

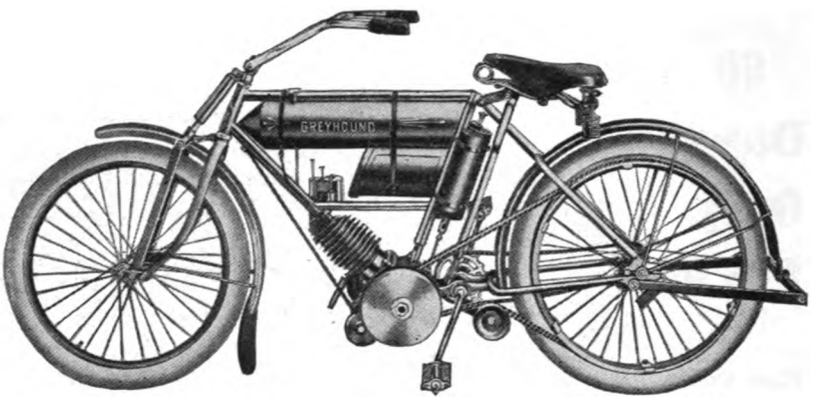
of good, honest construction, fine design, and bright distinctive features.

It is simple, staunch and very much the easiest riding motorcycle in the world.

It can be taken over cobblestones or any other kind of rough stuff AT ANY SPEED WITHOUT DISCOMFORT TO THE RIDER. This is due for the most part to the action of the GREYHOUND SHOCK ABSORBER. Find out about it.

Correspondence wanted with riders and dealers.

Catalogue for the asking.



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Oldest American Motorcycle Makers

1457 Niagara Street BUFFALO, N. Y.

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You 'Needn't Write To The Factory
Just Send For Our 1909 Catalogue For

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In The Way of Mot rcycle

Parts and Accessories

Remember, too, We are Distributors of the INDIAN and PIERCE in Greater New York and Long Island

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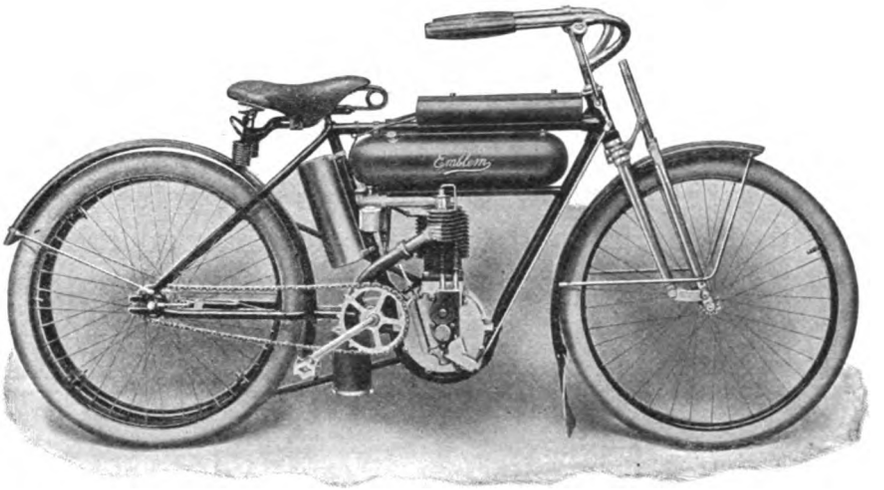

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EMBLEM MOTORCYCLES

Manufactured by

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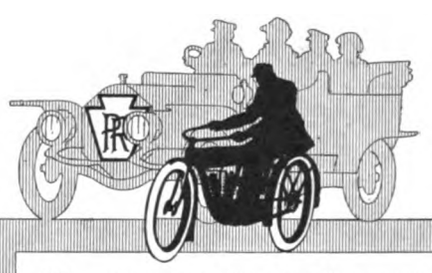

AUTOMOBILE TIRE QUALITY FOR MOTORCYCLE SERVICE

The wear and tear on tires resulting from the powerful propulsion of gasolene engines is as severe under the motorcycle as under the automobile. The latest and foremost tire affording automobile wearing capacity for motorcycle service is the

PENNSYLVANIA CLINCHER
NEW FLAT TREAD TYPE
MOTORCYCLE TIRE

If you are using the ordinary light tires, better fitted to stand the strain of foot pedaling on bicycles than the mauling and friction of motor driven travel, you will find it not only an economy but a safeguard to adopt this new and heavier tire—undoubtedly the strongest and most durable motorcycle tire yet made. ¶ It will pay you to write for descriptive booklet, price list and names of dealers near you.

PENNSYLVANIA RUBBER CO., JEANNETTE, PA.

Branches and Agencies throughout the country

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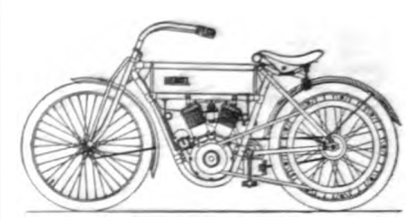
Merkel-Light 1909

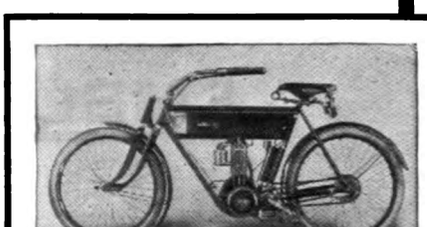


¶ The Intending Purchaser who desires full value for his money will find more useful and exclusive features on the MERKEL-LIGHT Line than can be obtained on any other, and will receive not full value only, but extraordinary value for the price asked.

CATALOGUE ON REQUEST

MERKEL-LIGHT MOTOR COMPANY

Pottstown, Pa.



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"TWO-IN-ONE"

BALL BEARINGS

ARE BEING USED SUCCESSFULLY IN THE BEARING POINTS OF LEADING MOTORCYCLES.

Mr. Manufacturer:—The New Departure offers you important advantages that you should investigate. We will [illegible] for trial on application. Send us blue prints today. Our [illegible] is at your command.

Have you seen our new Catalog?

The New Departure Mfg. Co., BRISTOL, CONN.

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NSU MOTORCYCLES

THE FASTEST IN THE WORLD

1 Mile

46 4/5 Seconds

THE MOST RELIABLE IN THE WORLD

Highest Average

F.A.M. Endurance Contest

3 Gold Medals

The Particular Man finds in buying a Motorcycle that his problem to solve is to pick out that Motorcycle with the greatest number of points of excellence and the fewest faults. In this connection the **N. S. U. is in a class by itself.**

WRITE FOR CATALOGUE "M"

N. S. U. MOTOR COMPANY, 206 West 76th St., New York City

Strong
Durable
Dependable

PITTSFIELD

Reliable
Efficient
Economical

THE MAN WHO KNOWS BUYS THE PITTSFIELD

4 Lead Motorcycle Flat End

5 Lead Motorcycle Coil Conical End

IT PAYS TO KNOW!

No Motorcycle Engine can develop its maximum efficiency or be run at its greatest fuel Economy until the ignition system is right.

Pittsfield Accessories help to make any old system right.

A complete Pittsfield System saves money, gasoline and trouble.

Motorcycle Magneto Spark Plug

Pittsfield Motorcycle Spark Plugs, single and double gap for high and low tension sparks. Mica insulated. Specially prepared electrodes afford maximum resistance against the melting effect of the hottest spark.

Pittsfield Motorcycle Coils. Four and five leads for one and two cylinder motors. Flat and conical ends. We can relieve you of all ignition difficulties. Write to us.

PITTSFIELD SPARK COIL CO., DALTON, MASS.

Sales Representatives: New England States, W. J. Connell, 36 Columbus Ave., Boston; Atlantic States, Thomas J. Wetzel, 29 W. 42nd St., New York; Central States, K. Franklin Peterson, H. V. Greenwood, 166 Lake St., Chicago; Michigan, L. D. Bolton, 319 Hammond Building, Detroit; Pacific Coast, The Laugenour Co., San Francisco, Cal.

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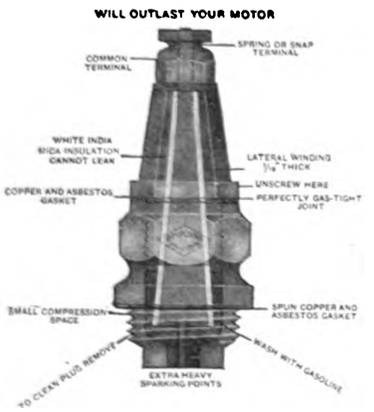
More Than Double

If a count of Motorcycle Plugs in present use were made it would be found that the



SPLITDORF MOTORCYCLE PLUG

outnumbers any other more than two to one.

This is because it is recognized by leading manufacturers and experienced motorcyclists as the best Plug made for the motorcycle.

Ask for it and be sure it is a genuine Splitdorf.

C. F. SPLITDORF Walton Ave. and 138th Street Branch, 1679 Broadway **NEW YORK**

THE TIRE TROUBLE BUG-BEAR

Won't "Bite" The Rider Whose Machine is Fitted With

The Kokomo Gridiron Tread

Long past the experimental stage, this tire is all but indestructible. If you want the best, Kokomo will be your choice.

The rubber absolutely sticks to the cloth, which is specially made of closely-woven Sea Island fabric.

KOKOMO RUBBER COMPANY

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The acknowledged Perfection in Motorcycle Transmission. Every Manufacturer in U. S. will give this Perfect Belt if You Insist, and to Insist is to be Satisfied.

NOTHING

can tempt an up-to-date motorcyclist if cheapness of an article is proclaimed as its principal feature.

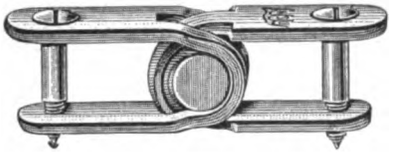
SHAMROCK GLORIA BELTS

Are not Cheap, but the best
V Rubber Belt in the World

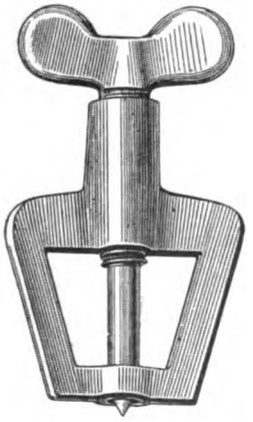
NUFF SAID

AFTER you've got the Belt, you need a good fastener, one that has a reputation for perfect construction, high-class material and satisfaction, there is only one—

The N. S. U. Belt Fastener



For 1 in., 7-8 in., 3-4 in. belts. By mail 40c ea.



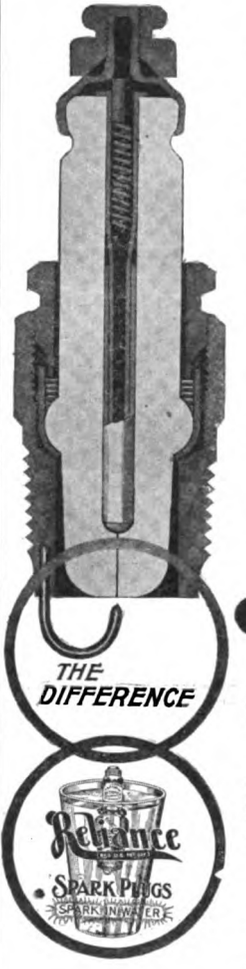
THEN, to use a fastener one needs a belt punch that works easily, quickly and does not ruin the belt. The N. S. U. is the only practical punch. It is impossible to drill the hole crooked, it does not cut the canvas in fact it is a product with ten years' experience back of it. That's your guarantee.

For 3-4 in., 7-8 in., 1 in. Belts. 70c by mail.

Write for our booklet. It's quite interesting for the motorcyclist who wants satisfaction with his mount.

N. S. U. MOTOR COMPANY
206 West 76th Street New York City

SPARK PLUGS



are a most important necessity in your motor. They why not buy a plug that has a reputation and is as simple as the RELIANCE.

Especially good features are found in RELIANCE PLUGS that make them differ from the ordinary. "THEY SPARK IN WATER".

Reliance
(REG. U.S. PAT. OFF.)

SPARK PLUGS

NOTICE

We will protect all users of and dealers in any of the plugs we manufacture against any litigation regarding the Nueller & Canfield patents.

JEFFERY DEWITT CO.

230 High Street Newark, N. J.

EDISON DOUBLE SYSTEM SPARK PLUG

designed for those desiring a dual system of ignition, but who have only provision for one plug in each cylinder of the motor.

MANUFACTURED AND SOLD BY
JEFFERY DEWITT CO.

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MOTORCYCLE POLICE RESTORED!

All machines doing police duty in New York City are "Bosch equipped"

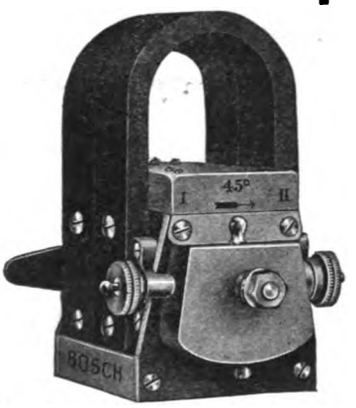
THE BOSCH MAGNETO

is indispensable where efficiency and reliability are requisite

BOSCH MAGNETO COMPANY

223-225 West 46th Street
NEW YORK

CHICAGO BRANCH
1253 Michigan Avenue



Veeder

TRIP CYCLOMETER
FOR MOTORCYCLES

"It's nice to know how far you go."

It also tells just what you ought to know regarding tires, batteries, gasoline consumption, etc.

ACCURATE, RELIABLE DURABLE

Send for Cyclometer Catalogue

Motorcycle Striker 25 Cents Extra

Price, each $2.00 **The Veeder Mfg. Co.,**
42 Sargeant St., Hartford, Conn.

Manufacturers of Cyclometers, Odometers, Tachometers, Tachodometer Counters and Fine Castings

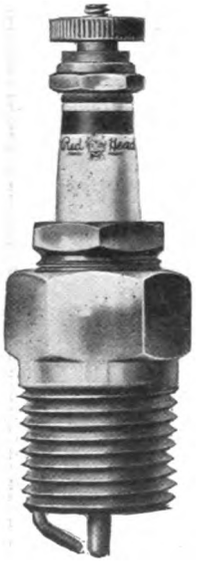
Represented in Great Britain by Messrs. Markt & Co., Ltd., 6 City Road, Finsbury Square, London, E. C., England

Trade Mark

Red Head
SPARK PLUG

is a favorite among the motorcyclists, because the porcelains are guaranteed not to crack from heat.

Used by all motorcyclists who want the best.



We don't fight opinions. If you think that a mica plug will serve your purpose best, the RED HEAD is also made in mica—interchangeable in the porcelain shell and vice-versa.

Price $1.00 either make.

Every motorcycle dealer ought to carry RED HEAD Plugs in stock, not only for motorcycles, but for automobiles as well.

They are profitable to handle.

Emil Grossman Co.
Manufacturers
232 West 58th Street, New York City

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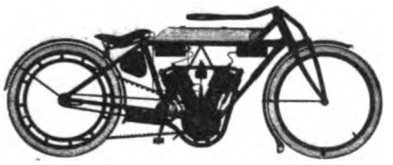
Don't Guess Which Motorcycle to Buy! Investigate Thoroughly and Find Out



The Curtiss 1909 Twin

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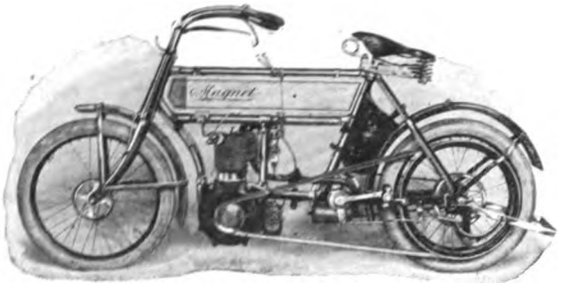

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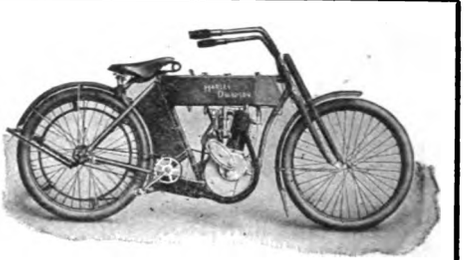

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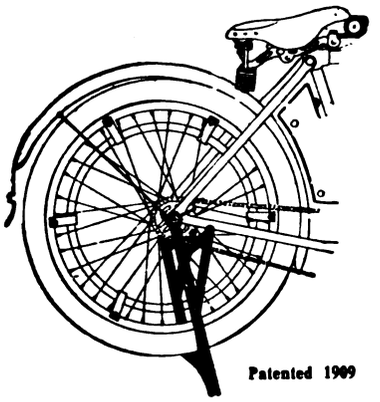

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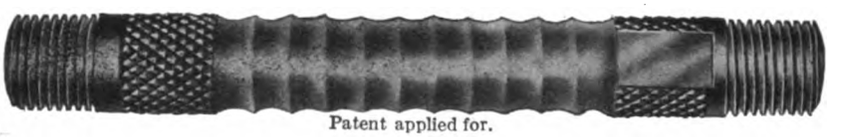

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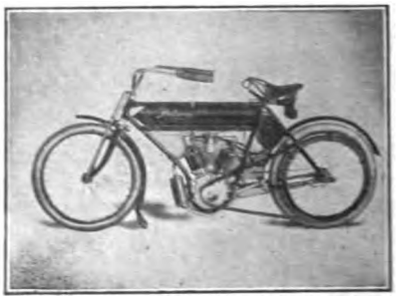

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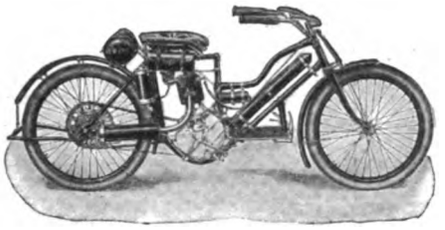

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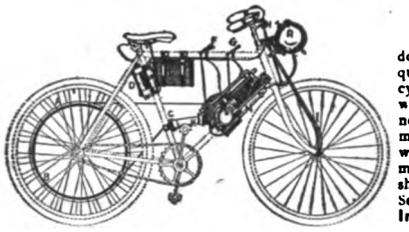

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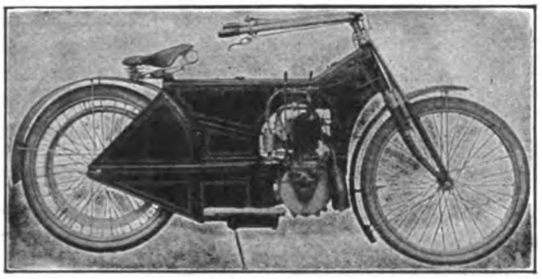

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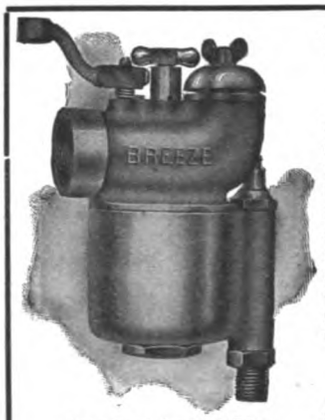

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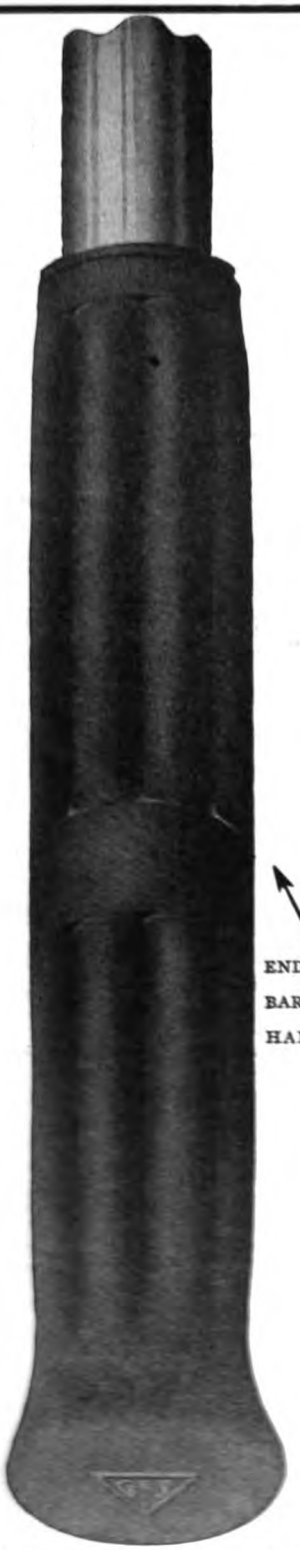

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299 Broadway, New York City

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MOTORCYCLE ILLUSTRATED

Vol. IV. No. 11 June 1, 1909

PUBLISHED BY THE MOTORCYCLE PUBLISHING CO., 299 BROADWAY, NEW YORK CITY

DECORATION DAY'S BIG EVENTS

THE WEATHER HAVING BEEN MADE TO ORDER, THERE WERE RUNS, HILL CLIMBS AND RACES A'PLENTY—AMBITIOUS EFFORTS OF THE HARLEM AND NEW JERSEY CLUBS CROWNED WITH SUCCESS—OTHER IMPORTANT COMPETITIONS

IDEAL weather conditions, prevailing thoughout the entire country, contributed to one of the most successful series of holiday events in the history of American motorcycling. The occasion was featured by the three-days run of the Harlem Motorcylce Club; the two-days run of the New Jersey Motorcycle Club; the hill climb on Giant's Despair at Wilkes Barre; a meet under the auspices of the Dayton Club; a hill climb conducted by the Minneapolis Club; a series of racing events at Bennings, managed by the Capital City Club of Washington, and by professional and amateur racing in the Coliseum and at Fiesta Park in Los Angeles.

SUN-BURNED and dust-covered, thirty out of the forty-seven who started Sunday morning in the two-day endurance run of the New Jersey Motorcycle Club, from this city to Camden and return, reported at the last checking station, in front of the automobile club, on Park place, Newark, up to 5 oclock last night. A few came in ahead of time, having abandoned the course and taken a short cut to the finish. The time set for the final checking was between 3:15 and 4 o'clock.

The distance mapped out for the run was about 350 miles, but many covered from ten to fifteen miles more by getting off the route. George Frost was one of those who had a spill, and he displayed a badly bruised eye as the result.

The crowds of spectators greeted the riders all along the course, and there were at least a thousand lined up along the road at Schooley's Mountain.

The following is a list of those who finished, the machines they rode and the points they scored: R. B. Whitehead (Indian), 1000; Percy Drummond (Indian), 1000; George P. Fawcett (Vindec), 1000; J. F. Moore (Excelsior), 1000; C. W. Bush (Yale), 1000; George Ashley (N. S. U.), 987; Stanley Kellogg (Excelsior), 975; K. Owen (Indian), 975; C. P. Rogers (Excelsior), 975; Fred Voelker (N. S. U.), 975; H. C. Page (Indian), 950; P. W. Stevens (Stevens Special), 950; W. J. Kluszek (H.-D.), 950; A. C. Mount (T.), 946; J. F. McLaughlin (N. S. U.), 925; F. Seery (N. S. U.), 921; G. E. Post (Indian), 900; J. W. Schneider (M.-M.), 891; Dr. J. P. Thornley (Indian), 861. The following finished, but did not qualify: Peter Guthrie (M.-M.), honorable mention; A. G. Griffin (R.-S.); Jack Rice (R.-S.); George Smith (R.-S.); B. F. Howard (M.-M.); J. C. Davis (Curtiss); A. B. Hilaman (Hilaman); H. B. Lyon (N. S. U.); J. M. Constant (Curtiss); George Reichey (Yale), and Carl Seigelbach (Indian).

TWENTY-FOUR machines, carrying twenty-six riders, started in the three day run conducted by the Harlem Motorcycle Club, Saturday, Sunday and yesterday. Perfect scores were made by William Coursen (Indian) in the twin-cylinder class, and by San Slanov (N. S. U.), in the singles. Those who finished and qualified for silver medals were L. H. Guterman (Indian), Jack Gold (N. S. U.), Blanche Roscoe (Indian), B. Miles (Indian), J. J. Rogers (N. S. U.), J Reagan (R.-S.), J. Hieronymous, and S. Neustadt (Griffon). Up to the time of our going to press (Tuesday noon), six others had finished without, however, qualifying for medals, as follows: G. Crownshield (Vindec), B. Neustadt (Griffon), W. Robinson (Pierce), Jack Jaches (N. S. U. tricar), G. M. Hookey (Indian), Sam and David Rosen (N. S. U. tandem).

Starting from the club's headquarters in New York, those participating passed through the following places:

First day—South Ferry, St. George, Perth Amboy, South Amboy, Lower Matawan, Freehold, Farmingdale, where an over-night stop was made at the Brower House.

Second day—Farmingdale, Lakewood, Tom's River, Watertown, Tuckertown, Pleasantville, Atlantic City; stop overnight at the Iroquois hotel.

Third Day—Atlantic City, Watertown, Farmingdale, Perth Amboy, Headquarters. Ideal weather conditions made the ride one long to be remembered.

WILKESBARRE.—In the big hill climb here yesterday, W. H. Wray, of Brooklyn, on a single-cylinder Indian, was the first contestant to be sent up the grade by Starter Wagner. His time was 1m. 55s. George Smith, Reading-Standard, was the only other competitor in the class for single cylinder machines. His time was 2m. 28s. Wray also won the event for double cylinder machines, climbing the grade on a 7-h. Indian in 1m. 41 2-5s. Charles Anderson, 4-h. Indian, was second, in 1m. 57 1-5s. Jess Arndt, 5-h. Indian, was third, in 1m. 57 2-5s. and Edward Swain, 6-h. Reading-Standard, was fourth in 2m. 39s.

MINNEAPOLIS.—The prize winners in Saturday's hill climb, under the auspices of the local club, were as follows:

Single-cylinder class: First—W. E. Barnaby, on a Reading-Standard, gold medal; Second—D. C. Hawley, Thor, gold fob; Third—J. M. Michaelson, Minneapolis, tire.

Twin-cylinder class: First—R. S. Porter, Indian, gold

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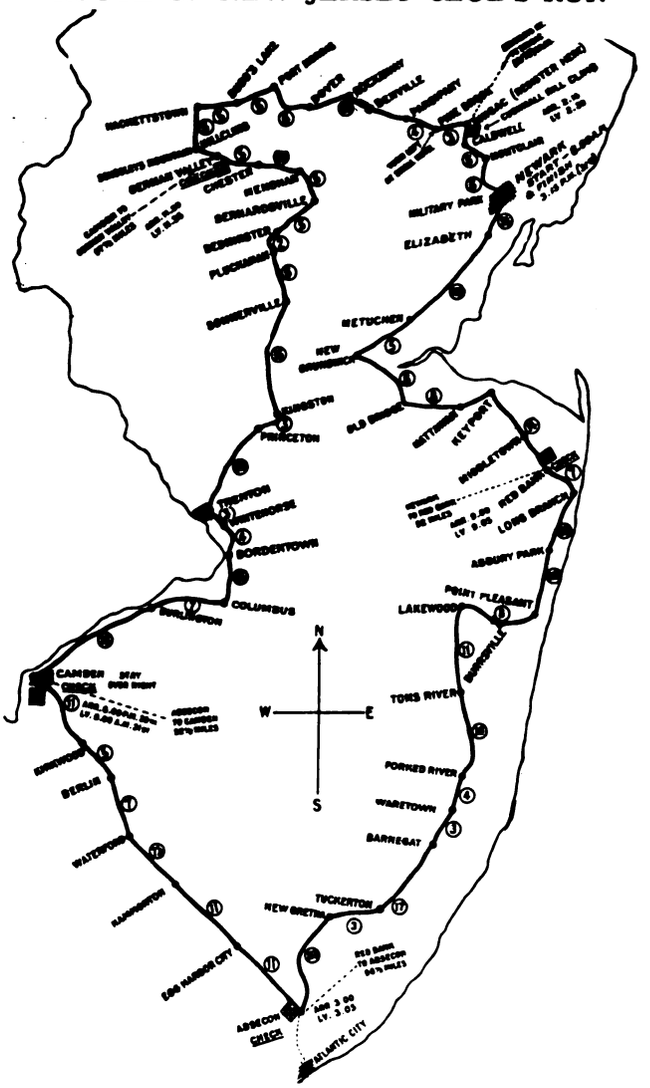
medal; Second—G. M. James, Indian, gold fob; Third—F. S. Haas, Indian, tire. The riders, makers of machines, time and standings are as follows:

Single-cylinder: 1—C. Egerberg, Thor, 59¼; 2—W. E. Barnaby, Reading-Standard, 42¼; 6—Galver Gould, Thor, 47; 7-D. C. Hawley, Thor, 38 4-5; 8—J. M. Michaelson, Min.; 9—F. H. Bissett, Indian, 42; 12—E. H. Hammer, Indian, 36 1-5; 13—C. A. Van Sickler, Excelsior, 53; 14—Olwer Wilson, Excelsior, 43; 15—T. P. Chapman, Harley Davidson, 46 3-5; 16—William Buckholtz, Jap 39; Twin-cylinder: 17—J. M. Michaelson, Minneapolis, 36 1-5; 18—F. S. Haas, Indian, 34 1-5; 19—G. M. James, Indian, 34 2-5; 20—R. S. Porter, Indian, 33; 21—J. P. Lyon, Torpedo, 45¼; 22—J. M. Michaelson, Minneapolis, 38 2-5; 24—Walter Taylor, Peugeot, 39 3-5.

PASSAIC, N. J.—The results of the motorcycle race at the Clifton Stadium, yesterday, were as follows: Five mile: Won by Bob Schultz; second, Charley Turville; third, Carl R. Ruden; fourth, Jimmy Hunter. Time, 5m. 31 1-5s.

THE Committee of the English A. C. U., fully recognizing the prejudice caused against motorcycles by the unnecessary noise made by many of them, will seriously consider the advisability of excluding all forms of cut-outs on machines taking part in the competitions of 1910.

ROUTE OF NEW JERSEY CLUB'S RUN



THE INDIAN DOES WELL IN ENGLAND

Lee Evan, in Sutton Hill Climb

THIS photogaph shows the "Indian" near the finish on Sutton Bank, England, recently. The ascent is a zig-zag one of about a mile, rising nearly 1000 feet, and the road is full of loose broken stone all the way. The "Indian" made a splendid showing, being beaten in time only by the 8-h. Bats twin-cylinder machine of 3½ x3½ bore. Although Evans was beaten in the three inch twin class in the first event by the Rex, yet in the open class he beat this same machine by over 10 seconds. Wells, who was second in the class four event, writes:

"Just at the present time we are at a disadvantage by having small singles and twins, as nearly all the events here at present are for large singles and large twins. I think just as soon as Hedstrom lets us have one of the new large singles and 7-h. twins we will show our English cousins what the American machines are made of. Anyway, the "Indians" have so far made a splendid impression in this country."

THE BENNINGS TRACK RACES

WASHINGTON, D. C.—The following are the results of the races conducted under the auspices of the National Capital Motorcycle Club at Bennings yesterday:

Three-mile novice (single-cylinder road machines)—First, Furr (Excelsior); second, Moxley (Harley-Davidson); third, Barker (Indian). Time, 4.49 2-5.

Five-mile open (single)—First, Mangold (Indian); second. Berryman (Harley-Davidson), third, Thomas (Indian). Time, 7.08.

Fifteen-mile open—First, Goerke (Indian); second, Thomas (Indian); third, Mangold (Indian). Time, 18.05.

Five-mile handicap—First, Mangold (Indian); second, Wells (Royal); third, Knight (Reading Standard). Time, 6.22.

Three-mile novelty—First, Furr (Harley-Davidson); second, Thomas (Indian); third, Wells (Royal). Time, 4.54 3-5.

Five-mile open (single)—First, Mangold |Indian); second, Knight (Reading Standard); third, Goerke (Indian). Time, 6.28.

Ten-mile open (double)—First, Goerke (Indian); second, Mangold (Indian); third, Parker (Reading Standard). Time, 11.56 3-5.

In the third event, when in the sixth lap, Shay, on an N. S. U., skidded and was thrown, but saved himself from injury by cleverly rolling out of the way of the heavy machine, which was badly damaged. He was second when the accident occurred.

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WARD MAKES 10 MILES IN 8.08 4-5

LOS ANGELES.—The May 23rd events were distinguished by Lingenfelder's victory over Derkum in the 8 mile professional, and the record-breaking performance of Ward, who, riding an N. S. U., travelled ten miles in 8.08 4-5. The summaries:

Amateur two mile stock machine races: Won by Herman Kohl (4-h. Elk); Irwin Knappe (2¼-h. Indian), second; C. Balke (3¼-h. Thor), third; time, 2.10.

First heat Match Race, 2 miles, single cylinder machines; C. Balke (Thor), first; R. Seymour (R.-S.), second; time, 1.52.

Amateur four mile handicap, limit 61. inches: Won by C. Balke (Thor), 1½ laps; M. J. Graves (7-h. Indian), scratch, second; R. Seymour (4-h R.-S.), 1½ laps, third; time, 3.19.

Second heat, match race, four miles: Won by Balke (Thor); time, 3.50 3-5.

Mile exhibition against time: Paul J. C. Derkum (7-h. R.-S.); time, 48 1-5 seconds.

Professional eight-mile open race: Won by E. Lingenfelder (N. S. U.); Paul J. C. Derkum (R.-S.), second; Arthur Mitchell (N. S. U.), third; time, 6.28.

Final heat match race: Won by Balke, one mile, time, 1.00 4-5.

Amateur ten mile open: Won by A. Ward (7-h. N. S. U.); R. Seymour (7-h. R.-S.), second; C. Balke (4-h. Thor), third with three laps handicap; time, 8.08 4-5.

Professional 25 mile race: Won by E. Lingenfelder (7-h. N. S. U.); Paul J. C. Derkum (7-h. R.-S.), second; A. Mitchel (N. S. U.), third, time, 24.10.

LOS ANGELES.—The local club's fourth annual endurance run ended last night. There were five perfect scores, and 32 contestants in a 342 mile two-day run. The winners: W. T. Carter, two speed Minneapolis; C. E. Anderson, Excelsior; E. L. Parmalee, Excelsior; Fred Bruner, Thor; Harry Lightcap, Peugeot. The Sunday run was 156 miles, with controls at Anaheim, Capistrano, Oceanside, San Diego. Yesterday 195 miles were made, with controls at Escondido, Temecula, Riverside, Glendora, Los Angeles. There were no serious accidents, though 100 miles were over mountain roads.

INDIANS carried off all the first place honors in the big hill climb held by the Yale Automobile Club on Shingle Hill, West Haven, Conn., on May 26th. This hill, nine-tenths of a mile long, has a sharp rise immediately after the start. Following this is a winding level stretch of a quarter of a mile with two right and left curves.

Pete Cox—New Haven Hill Climb

Ward, 10-Mile Amateur Record Holder

The sensational riding of Wray and the Cox brothers thrilled the 15,000 spectators gathered along the course. Indeed, Wray made the hill in just over a second more than did the 120-h. Benz car, and the spectators on the turn were given a wonderful exhibition of riding when he turned out of his course to avoid an "imbecile" who got in his way. The summaries:

Class A—machines not exceeding 30½ cubic inches: First, Peter Cox (Indian); second, G. Gregory (F. N.); third, G. Wildman (Indian); time, 1.04 2-5.

Class B—Machines not exceeding 61 cu. inches: First, W. Wray (Indian); second, P. Cox (Indian); third, J. F. Cox (Indian); time, 52 2-5. Wray averaged nearly 62 miles per hour.

Class C, Free-for-All: First, P. Cox (Indian); second, W. Wray (Indian); third, J. F. Cox (Indian); time, .55.

LOS ANGELES.—On Thursday last, at Lordsburg, 40 miles from here, the occasion being an Elks' benefit, Seymour (Reading-Standard) defeated Graves (Indian) in the five miles amateur; time, 5.13 4-5. Two mile open, won by Seymour; Graves, second; time, 2.10. Derkum, riding against time, made a mile in 55 4-5 seconds, and five miles in 4.40. Graves captured the three mile event.

LOS ANGELES.—On Sunday, Lingenfelder rode a five miles exhibition on the five lap Fiesta park track in 5.38, using a 4-h. Elk. Mitchell and Graves appeared with 7-h. machines to ride exhibition but the referee refused because of the fact that their machines were not adapted to racing on a five lap track.

THE special committee of fifteen, appointed to consider the revision of the F. A. M. competition rules, will meet at the Astor House, New York, on Thursday, June 10. The meeting has been called by W. F. Remppis, chairman of the committee.

LOS ANGELES.—The Fiesta Park meet yesterday included two motorcycle events. In the three mile professional, Lingenfelder defeated Mitchell, time 4.01 1-5. Ward won the three mile amateur, defeating Kohl, in 4.55.

THE New York Motorcycle Club will hold its annual open hill climb on the Riverview hill, about two miles beyond Yonkers. The date set for the event is June 19.

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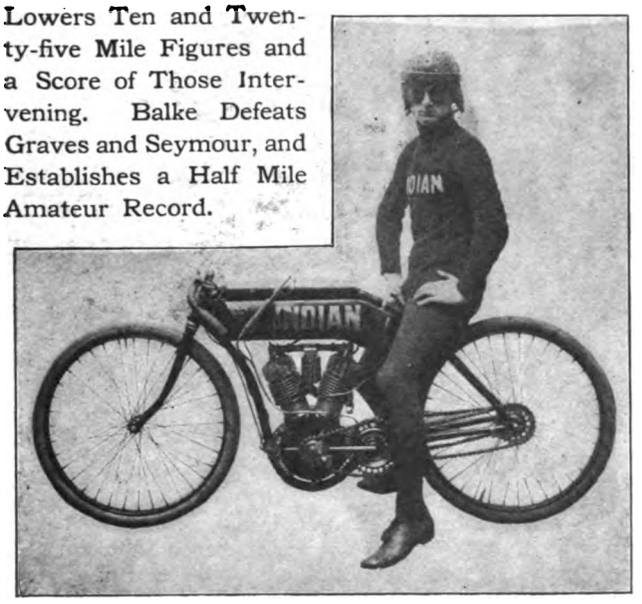
TWENTY-ONE MORE RECORDS FOR DE ROSIER

Lowers Ten and Twenty-five Mile Figures and a Score of Those Intervening. Balke Defeats Graves and Seymour, and Establishes a Half Mile Amateur Record.



Latest Photo of "Jake" De Rosier

SEVERAL thousand persons saw some splendid racing and a score of records smashed at Los Angeles, May 16th. Jacob De Rosier and Charles Balke, who had previously been wheeled out in many exciting finishes by M. J. Graves, were the stars of the meet.

Balke, riding a Thor, electrified the crowds by winning the three regular amateur events, defeating Graves and Seymour in exciting finishes. In the six-mile handicap, he reduced the time for single cylinder machines from 5m. 41 2-5s. to 5m. 34 3-5s. He established a half-mile against time, amateur record, by riding the distance in 28s.

In the ten mile competition De Rosier hung up new figures for three, four, six, seven, eight, nine and ten miles. In the twenty-five mile, against time, he captured the records for each mile between the eleventh and the twenty-fifth, with the exception of the twentieth, for which the old record continues to stand. De Rosier's mileage in the two events was as follows:

10 MILES.

Miles.	Time.	Miles.	Time.
1	.49	6	4.46 1-5
2	1.36	7	5.37 1-5
3	2.23 2-5	8	6.26
4	3.12 1-5	9	7.14
5	3.58	10	8.05

Theo. Samuelson, a Los Angeles Favorite

FIGURES FOR THE 25 MILE EVENT

Miles.	Time.	Miles.	Time.
1	.47 3-5	13	10.56
2	1.36 1-5	14	11.49
3	2.25 3-5	15	12.41 3-5
4	3.16 1-5	16	13.38 4-5
5	4.06 3-5	17	14.25 3-5
6	4.57 1-5	18	15.18
7	5.48	19	16.10 1-5
8	6.38 4-5	20	17.02 1-2
9	7.29 3-5	21	17.54 1-5
10	8.21 2-5	22	18.46 4-5
11	9.13 2-5	23	19.38 2-5
12	10.04 3-5	24	20.31
		25	21.38 3-5

NEARLY 776 MILES IN 24 HOURS

H. A. COLLIER, the crack English rider, has just set up a new 24-hour record, making a total of 775 miles, 1,340 yards in a day. Collier rode a 7-h. Matchless.

Below is a summary of the hourly mileage, taken by Messrs. A. V. Ebblewhite and G. A. Reynolds, official timekeepers of the A. C. U. The record was made on a three lap cement track.

Hours.	Distance covered.	Mileage per hour
1st.	49 miles, 1460 yds.	49 miles, 1460 yds.
2nd.	97 " 1480 "	48 " 20 "
3rd	145 "	47 " 280 "
4th	193 " 1640 "	48 " 1640 "
5th	245 " 640 "	51 " 760 "
6th	294 " 800 "	49 " 160 "
7th	326 " 640 "	31 " 1600 "
8th	364 " 1480 "	38 " 840 "
9th	396 " 80 "	31 " 360 "
10th	411 "	14 " 1680 "
11th	445 " 1462 "	34 " 1462 "
12th	471 " 784 "	25 " 1078 "
13th	506 " 1260 "	35 " 476 "
14th	508 "	1 " 500 "
15th	522 " 1590 "	14 " 1590 "
16th	556 "	33 " 170 "
17th	599 " 1700 "	43 " 1700 "
18th	611 " 330 "	11 " 390 "
19th	648 " 586 "	37 " 250 "
20th	680 "	31 " 1074 "
21st	690 " 586 "	10 " 586 "
22nd	725 " 1390 "	35 " 804 "
23rd	730 " 940 "	4 " 1310 "
24th	775 " 1340 "	45 " 400 "

H. A. Collier, 24-Hour Record Holder

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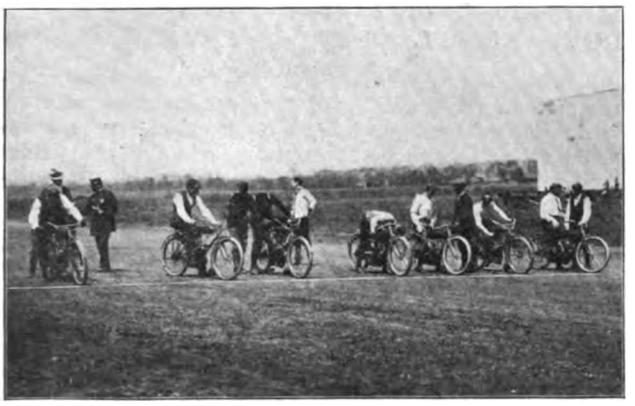
N. Y. MOTORCYCLE POLICE DO SOME RACING



Start of 2-Mile Handicap

Winning by a Good Margin

TRACK riders in the motorcycle and bicycle squads of the Police and Health Departments contested for prizes in races at Morris Park Saturday, May 15th, with Police Commissioner Bingham as referee. Among the spectators was Mrs. Joan Cuneo, famous as a long-distance automobilist, who showed much interest in the contests. Winthrop P. Scarrett, President of the Automobile Club of America, was starter and Irving Stern timekeeper.

The star performer was Sergeant Benjaman Mallam, of the Central Office, who won the five-mile motorcycle championship in 1907, in 5m. 10s. He won this time in five laps on a track that was eighty yards short of a mile and one-sixteenth, in 5m., 43s., with a handicap of twenty-five seconds.

Sergeant Anthony Howe proved his superiority over most of the contestants and won several prizes. The summaries:

2-Mile Handicap—Sergeant A. Howe, Remington, Silberbauer. Time, 2m. 45s. 1-Mile (singles)—Remington, Silberbauer, Haggerty. Time, 2m. 38s. 1-Mile (twin-cylinders)—A. Howe, Nearney, Johnson. Time, 1m. 28s. 5-Mile Championship of the World—Mallam, A. Howe, Casey. Time, 5m. 43s. 2-Mile Special (singles)—A. Howe, Remington, Haggerty. Time, 3m. 2 4-5s. 1-Mile (bicycle)—Mosler, Winter, Purden. Time, 3m. 19s. 2-Mile Handicap—Mallam, J. Howe, Rickard. Time, 2m. 56s. 1-Mile (singles)—J. Howe, Van Cleaf, Faber. Time, 1m. 38s. 1-Mile (twin-cylinders)—Mallam, Rickard, Casey. Time, 1m. 28 1-5s. 5-Mile Handicap (free for all)—Rickard, Mallam, Casey. 2-Mile Singles (Health Department only)—Hearn, Bevons. Time, 3m. 25s. Pursuit Race (twin-cylinders)—J. Howe, Faber. Not timed. 2-Mile Handicap (free for all)—Mallam, Rickard, A. Howe. 5-Mile Singles—J. Howe, Haggerty, Bevons. Time, 8m. 20 4-5s. 2-Mile Handicap—A. Howe, Johnson, Rickard.

TRACK FOR SPRINGFIELD, MASS.

"JACK" PRINCE, in Springfield, Mass., has plans for a track which he promises to have ready for use July 4, and it will bear the name of the Springfield Stadium. Mr. Prince, through George M. Hendee, of the Hendee Manufacturing Company, has secured a 10-years' lease of a plot of land. He plans to lay out a first-class field which can be used for any kind of athletic events, motorcycle racing, baseball, football or even cricket. The track, however, will be designed mainly for the cyclists and will, in Prince's opinion, be one of the fastest of its kind in the world. He predicts a speed of two miles a minute by the motorcyclists and says the record man will have to get a new score card when his track becomes a fact.

Prince intends, also, to build tracks in San Francisco, Salt Lake City, Utah, Newark, N. J., and a half dozen other places.

THE annual spring run of the Concourse Motorcycle Club, to Savin Rock, Conn., will take place Sunday, June 13. The start will be made from club headquarters, 162d street and Jerome avenue, at 6:30 a. m. All entrants will be eligible to compete for prizes. Contestants must maintain an average speed of 20 miles per hour, and will be checked at given points en route. Checking stations will not be made known to contestants. Participants finishing before 5 p. m., or after 7 p. m., will be disqualified. Entries should be sent to Fred. Larsen, Captain Concourse M. C., 200 West 144th street, New York.

POINT BREEZE RACES JUNE 12

THE races to take place on the Point Breeze track, Philadelphia, will be held Saturday, June 12, having been postponed from May 22, owing to rain on that date. A run to Atlantic City, under the auspices of the Philadelphia Motorcycle Trade Association, is planned for June 6th. Those who wish to enter should address W. G. Rhodes, 19th and Oxford streets, Philadelphia.

New York Motorcycle "Cops" on Parade

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THE A B C OF MOTORCYCLING

How Long Should a Good Mount Last?—The Choice of a Machine—Question of Reliability and Speed—By ROLLAND C. LAURIE

OFTEN have I been asked by the novice "how many years should a good machine last?" In answer one may quote instances of motorcycles lasting for indefinite periods in the hands of skilful drivers. To quote a personal experience in this matter: In the year 1897 I was the proud owner of a "Werner" front-driven motorcycle. This was the first practical motorcycle on the market, closely following the *De Dion* tricycle. I may be allowed later to describe some of these prehistoric motorcycles but it suffices to say that this machine was an air-cooled 1¾ h.p. motor driving by belt on to the front wheel with "wick" carburetor and battery or, rather accumulator, ignition. It took me many hundreds of miles and was the object of interest to all the users of the road. This patriarch of a machine is actually in use now and the owner, to whom I sold it, although keeping a "stable" of motorcycles, still uses the little "Werner" at times and tells me that it shows up well beside the modern machines in spite of its prehistoric design. This mount has been fitted with a new piston and three sets of rings, and has been re-bushed twice. There is no reason why, with care, a good motorcycle should not last ten years or so with reasonable replacements. On this side I have seen many instances of the same longevity. A neighbor of mine has an antediluvian Indian, one of the earliest specimens of a papoose from the Wigwam. One of my friends in North Dakota has an ancient Mitchell, now gone from our ranks into the higher spheres of automobile construction. Were I to proceed I could fill this chapter with similar statistics.

The choice of a machine.—The novice should begin with a single cylinder. Three and a half horse power is high enough for all ordinary needs and, in addition, makes for lower running expenses and fewer replacements. Horsepower is calculated according to the length of the piston stroke in inches and the diameter of the cylinder in inches. The F. A. M. has adopted a useful formula, which I shall explain, simply that the novice may get an accurate idea as to how to apply this calculation. Let *D* equal the diameter of the cylinder, *L* equal the length of stroke both in inches, and *N* equal the number of revolutions per minute. Now the formula reads:

$$\frac{D^2 \times L \times N}{18000} = H.P.$$

In single cylinder engines, a speed of 3,500 revolutions is fair. Generally speaking, 2,000 to 2,500 r. p. m. is nearer the mark. However, I am faced with practical proof of a 3½ h.p. *single cylinder* motorcycle, fitted with road kit, doing 58½ miles an hour on the track, with a gear of 4½ to 1. This spells efficiency, methinks! A road machine and not a racer, mark you. This gives considerably over 3000 revolutions per minute, and that in the hands of an amateur.

Reliability versus speed. It is safer for the novice to choose a machine with a reputation behind it, not merely for racing but for reliability. Study our reports of reliability trials and choose a make which shows up well, as speed is only a minor consideration beside a record for reliability. A manufacturer is wise in entering these trials as thereby the public can be shown what the machine can actually do on the road, in the hands of a skilful rider. Nowadays reliability trials are run according to stringent rules and it is a good machine which puts through under conditions such as our 2,000 miles contest trial in the East. In a long trial, across a recent eight amateurs rode machines of one make and all finished with perfect scores in a thousand-mile test. Now I contend that an average buyer can gain a lot more information by such a performance.

As to transmission, choose your own. We have no space for starting words warm as to the charms of each form of transmission, and, almost, I have my ideal—this may not be another man's, so we will leave the question alone. Procure a mount fitted with spring forks as these are an untold blessing. See also that a large and comfortable saddle is fitted, as earlier models were ill-provided in this essential detail. As to tires—have the best, in size at least 2½ inch, choosing 2½ inch in preference, as a larger tire gives off less vibration and wears far longer, giving less trouble than one of smaller dimensions.

If you are buying a new machine buy a good one, as the few extra dollars will be more than saved in the decrease of up-keep and repair bills. In buying a second-hand motorcycle, look carefully for signs of wear. See that the bearings have no "shake," that the compression is good, that the chain is not worn unduly, that the belt is in good condition. Look also for signs of wear in the driving sprocket or, if a belt drive, see that the pulley is not badly worn—in short, be as cautious as a Scotchman in a Chicago hotel.

Cost of up-keep.—The cost of running a good motorcycle is very low in comparison with all other forms of road travel. With different riders, the expense varies considerably. A new rider with a second-hand mount naturally would incur larger expenses. Sometimes he would have to seek the aid of an expert repairer for some minor trouble which his more skilled brother could easily fix. To strike an average as to the probable cost of running a single cylinder motorcycle the sum of two cents a mile, including the initial cost of the machine, is about correct. This price takes in depreciation in value, gasoline and oil, overhauling by the makers, renewals and tires, in fact everything. Of course, when a large mileage is covered the cost works out to considerably less, and again, if the rider happens to be a good salesman, he may reduce this average sum considerably by selling the machine in the end at a good figure.

Taking the question apart from the initial cost of the motorcycle, and figuring on the basis of mere running expenses and renewals, the cost per mile is reduced to less than one cent; but I have purposely taken the gross expenses to give an accurate idea. As for running expenses, apart from renewals, cost of machine and depreciation in value, a rider can cover 100 miles on about twenty-five cents worth of gasoline and lubricating oil. Therefore, in motorcycling we have one of the cheapest forms of sport to be obtained and, what is more, one of the healthiest and most interesting anyone could wish for. Another great point is that a motorcycle teaches the most unmechanical of us certain lessons in mechanics, as, to be self-reliant on a trip one must study the constructional details of one's machine.

[The concluding article of this interesting series will be published in the June 15th issue. It will include a recapitulation of the important points, with a few more hints of value to the novice.—ED.]

A FIVE MILE motorcycle race will be one of the features of the motor meet when the Shriners gather in Louisville, Ky., this month.

CARL BAHNSEN contemplates conducting a series of three races under F. A. M. rules, July 18th, on a track just outside St. Louis.

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THE STORY OF YESTERDAY AND TO-DAY

A Plunge Into "Ancient History"—Missionary Work in the Trade—The Present, and a Look Into the Future

By GEORGE W. SHERMAN

TO plant a seed and watch it grow, to nurse a plant until it bears flower or fruit, to finally realize the long-dreamed dream, the work, the preparation is fascinating, the final successful result is sufficient reward; 'tis a thing to gladden the heart. Such was my lot in the motorcycle field. The missionary work was hard, but interesting. In the face of many ups and downs and goings and comings it was fascinating for I had an abiding trust that, duly cared for, the seed would grow to full estate and bear fruit. As thousands of people are today riding motorcycles and other, many other thousands are "looking into it," I thought that the story of YESTERDAY might be of interest. In those old days I received naught but the merry Ha! Ha! from bicycle agents and from the public. Today, well today they're both keen, eager, interested. Today they have *belief*.

In the early days I was looked upon as having something loose under my scalp for wasting my time attempting to interest people in those "little devil" machines, as they then called them. As for myself, I felt much like the Methodist minister who penetrates Africa with silk tile on head and bible in hand. I was conspicuously and very much alone. Even the men who are selling motorcycles today seemed to act towards me as if I was setting aside five dollars a week from my salary for a padded cell in some asylum. But I had studied the "little devil" machine and its future, and, to my vision, there appeared nothing but wonder and success. At that time I did not realize that I could see so far; for nine years marked the road from yesterday to today. As I had made up my mind to succeed in what I had undertaken, I did not permit "more money" or other "offers" to lure me from the path I had started on. Here and there I found converts, and these few of THE YESTERDAY have little cause to regret that they placed their shoulder to the wheel and made motordom what it is TODAY. Their reward has been many pieces of silver stored up in safe places.

During the year 1901 a young man designed a machine simply because some one asked him to try. His work was interesting in so far as that one machine was concerned, for he succeeded in his attempt; but in its future he had no faith, and for that lack of faith his reward is much smaller than it would have been had he known then what he knows now. Had the missionary seen the object in the same light as the designer perhaps motorcycling would not be what it is today. However, some one is reaping the harvest; and you can rest assured that it is not the missionary. I judge there must be an old saying hid away somewhere that would read: "Once a missionary, always a missionary"; but dreamers don't always think of proverbs until they wake up. They are too busy taking promises; for to succeed as a missionary one must learn to live on promises, and a little money; but when one comes down to the real thing he will find promises to be something that he can't bank or spend. They are much like counterfeit money; and it is a low down trick to pass counterfeits. Once a counterfeit, always a counterfeit; once a promise, always a promise.

These things were only part of the missionary's contentions. He not only had to preach faith to the dealer, but also to the few makers who were losing heart because of the slowness of the dealers' conversion to the motorcycle; for the dealer who had money invested his coin in the automobile business, which was then coming into

George W. Sherman at His Desk

view, and left us only repair men to work upon, men who had their own troubles. For they were struggling to become merchants, and the few who had enough ready cash to take a try at the motorcycle were so skeptical that they had to be either chloroformed or hypnotized to separate them from their money. The sound business man or merchant would sharpen his pencil, and figure a bit on a piece of paper, and then hand me this result: "Young man, you may have a good thing, but it is not as yet ripe enough for me to tackle. I would waste too much valuable time. I have just computed the time and money I would have to invest and I find that I stand a chance to put up a fortune before I could realize." Serious thought would prove these assertions as being correct, and many a time I have hoped and prayed that all would not wake up to the merchant's line of talk before we got the motorcycle started on its road to TODAY. Those fellows who did not wake up have quite a few of us to thank for our efforts in nursing the seed that was planted in producing the fruits of the now.

People and things are continually evoluting. The repair man of yesterday is the merchant of today. The skeptic has received faith and confidence, and the little merchant of yesterday is the big merchant of today, who is scrambling for good motorcycle propositions, for now they see easy money in it. Men and boys who laughed at and derided the motorcycle in the past are riding them now. Dealers by the hundreds are flocking to the motorcycle field to reap the harvest of the hard workers of nearly ten years. The motorcycle was not snapped up, nor was a craze made of it; it has been slow in its growth, but it has been adapted and applied to many vocations of man. Hence its life will be a hardy one.

Once, in my missionary days, an old gentleman stopped me as I was demonstrating and asked if he might examine the machine, which I was only too pleased to permit. He seemed to be elated over the fact that it was his privilege to live to see such a machine, and during our conversation I asked him these questions: "Do you think this a crazy idea?" "Do you think that I shall succeed in this vocation?" "Do you think that the motorcycle will amount to a craze or develop into a steady business?" His reply was the most encouraging I had ever had. He said: "Young man, anything that will carry a man, as that does, from place to place with so little expense, and cover so many miles in such a short space of time, will not only be a permanent business but

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men will find them a necessity, and indispensable for business as well as for pleasure." I thought at the time that if every one looked at it that way how easy things would be for me.

The prophecy of yesterday is being materialized today; and although the young sports are howling for fast, sporty machines, men in all walks of life are fitting the motorcycle into their business. Our city, state and national governments are now adopting them. Every factory is today working overtime to catch up with its orders. Every dealer throughout the country is being approached by men who are interested, and who are asking about motorcycles; and those who have them are booking orders while the sleepy ones let the public ask vainly.

The North, East, South and West, all are demanding motorcycles. The sleepy dealer, who was wondering where and how he could sell a motorcycle, wakes up with a bump when he sees the young man across the road start out on a fine morning mounted on a brand new motorcycle; and he has an awful shock when, in the course of a short time, the same young man opens up a store to sell them. The bicycle dealer considers the arrival of the new agent an impertinence. That is not so, for he has merely seized the opportunity that the dealer refused. This young man had tried to purchase his first machine from that dealer but could not, owing to the dealer's lack of nerve and foresight in laying in a sample. I can cite case after case where, two seasons ago, the dealer who purchased but one sample machine to start with, ordered this season, even before the roads had opened up, fifty machines or more; and many of the small towns and villages already have from five to ten 1909 models running about their streets.

I have always managed to keep in touch and feel the pulse of every one in the industry, the maker, the dealer, and the public. In the month of March I placed a small advertisement, of the right kind, in one issue of two weekly and three monthly publications. The two weekly papers hit the general public and the latter are magazines that hit all sorts, from men of science down to locksmiths. It caught those whom I thought did not read our trade papers. The results were as follows: 5,118 answers, all demanding catalogues. Seventy-five per cent of these answers were good, common-sense letters. The balance had the earmarks of the schoolboy, but as they will be our future motorcyclists all received the same prompt and courteous attention. Each one of them has been followed up in the proper manner with letters and, in many cases, with personal interviews by my salesmen or our agents. This follow up was kept at until we knew positively whether they meant business or not. Over 100,000 catalogs have passed through my hands since January. And we are not alone in this. Other firms are having the same experience.

We are beginning to look the real thing straight in the face. The day of the harvest is not "far off"; it is right here, TODAY. In the past ten years the public has become very wise, in fact has seemed to have given motors more attention and study than the majority of merchants who are selling them. And we find that they are not going at it in a crazy fashion. They are studying and consulting so as to pick the good ones, and they seek the motorcycle that is supreme in all things, the one that stands the strains of all kinds on road, on hill and plain, the one that costs the least time and money in its up-keep. The wise purchaser cares not for the racing machine; he wants the one that will take him there and back. And I am pleased to note that thousands today voice these sentiments. Who ever heard of hitching a race horse to a cart? No sane man ever went to a racing stable to purchase a horse to hitch to his buggy.

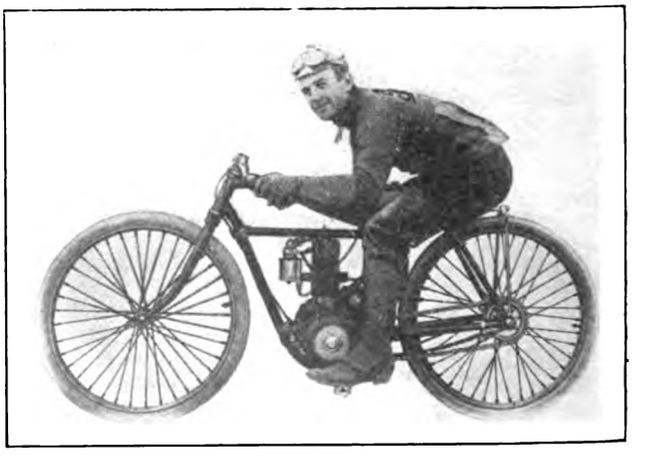
Men and horses trained for racing purposes don't last long. Their glory and their days are numbered. And so it is with the boat, and the auto, and the motorcycle that is built for that purpose. They are built for advertising and glory, and the gain of some one man or a few. The public can only find glory and gain in the purchase of a good roadster, as they have always, from the beginning of time, been the loser when they have mixed up with that word "racing."

Mr. Dealer, it is for these reasons that the motorcycle business is obtaining a solid foundation, because manufacturers are catering to the needs of the great mass of users. Preach reliability; let the racing game stay in a class by itself. Boost your machine, whatever make it may be, for it's *road ability*. They all go faster than the law permits. Talk and preach this and you will gain more friends than ever before. If you will preach, advertise and demonstrate the reliability of the motorcycle, TOMORROW will be greater than TODAY. This year the army of motorcyclists in America will be increased by 20,000. Now is the time for the dealer to make preparations to double this in 1910, and in doing so he is increasing his bank account. And the dealer can more than do this if he will use this prescription: "A little money; some advertising; some time; plenty of nerve; shake well and use often." One seed sown on fertile ground, well raked and hoed, will produce manyfold The motorcycle field is ripe. The time to begin gathering the harvest is NOW.

FAIRBANKS, Alaska.—The motorcycle has invaded Alaska and has proved its efficiency in making long runs in a short time. From Fairbanks to Valdez, over slushy trails, a distance of 360 miles, the trip was made recently by S. H. Wheeler in two days' time.

MIDDLETOWN, N. Y.—One of the most ardent devotees of the sport here is the Rev. Stanard Dow Butler, who has just completed a week's tour awheel. This pastor declares that there is nothing quite like the pleasure of motorcycling.

DERKUM AND LINGENFELDER



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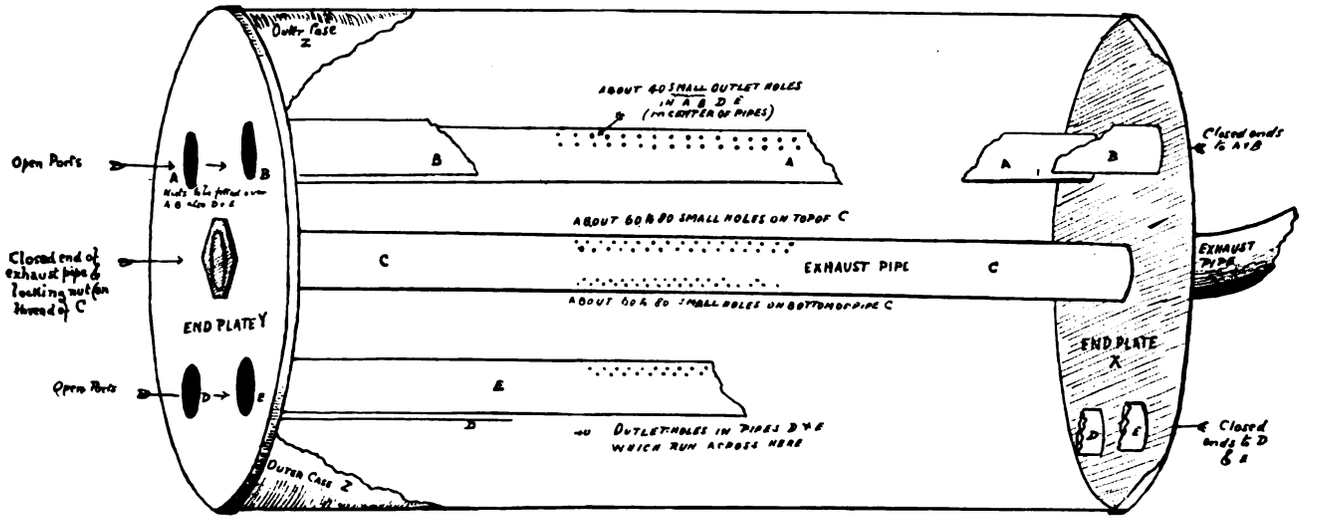
TO CONSTRUCT AN EFFICIENT MUFFLER



THERE have been so many questions on this subject since I first roughly described this muffler, that the only way to lighten our mail-bag seems to be to describe and draw the whole caboodle. The two diagrams which I give show the adaptation to either single or twin cylinder. In the case of the single cylinder drawing I have made the outlet pipes purposely too large, for the sake of clearness, and I have also "broken" the outer case so that the gizzards may be viewed in all their native nakedness.

In a general way, it may be said that the outlet pipes should be made about two-thirds of the diameter of the main exhaust pipe or the continuation of the exhaust pipe, as the case may be. Again, I have specified in the design that 40 small holes should be in each outlet pipe but, if extreme silence is the object of the constructor, twenty should be made in each of the four pipes, making 80 in all; it will be found that this does not materially increase the back pressure. The theory of car designers in the construction of mufflers is based upon the results of an experiment which showed that the area of all the outlet holes need only amount to one-third the diameter of either the exhaust pipe or the outlet holes therefrom. So, if we get eighty holes in our outlet pipe and eighty holes in the main exhaust pipe of double the size of the outlet holes, we have no back pressure to speak of. Again, I have seen one of these mufflers constructed with only twelve holes in each outlet pipe, this being extremely efficient in action. Another variation can be embodied which makes for even greater efficiency and that is to spread the holes in the main exhaust pipe C, in well separated groups along the pipe; in the single cylinder pattern running right to the end plate V and, in the twin cylinder style, keeping nearer to the center of the expansion chamber. This muffler can be improved in various ways by the exercise of a little ingenuity. I have seen the outlet parts A B D E extended for about 8 inches and, running together, end in a single pipe of large diameter which was carried along the rear forks.

In general construction details I will leave much to the ingenuity of my readers, as it is my belief that each rider possesses some talent towards invention. At a glance, the reader can see the theory of this muffler and its great advantage over those of baffle-plate construction. In the latter type, the exhaust gases have no time to expand before impinging upon an obstructing plate, and so on until the air is reached. Together with back pressure, this must of necessity produce noise and generate *heat*, which should not occur in a well constructed muffler. Now, if the exploded gas can have time to expand in a large chamber *before* it enters the silencing process—the back pressure is done away with, the heat is of necessity reduced and the gas can filter through the outlet holes and reach the air without any direct impact against walls or flat surfaces, which action is known to produce noise. The main argument to follow, however, is complete expansion and thus we must construct our muffler of sensible dimensions. This is a point which has been overlooked in muffler construction for motorcycles; weight (a matter of a few ounces) is hardly a factor, and surely underneath the crank-hanger bracket there is room for a large sized muffler which will not detract from the general appearance of the motorcycle any more than did the old round coil of battery days, when fitted elsewhere. Therefore, for a single-cylinder a fair size for a muffler of this description would be 9x4½ inches, and for a twin cylinder about 12x5 inches, a slight variation in size will not matter; the main point is to make the muffler as large as possible without making it unsightly. On a twin cylinder tricar of 10 h. I had a muffler of this design 18 inches long and 6 inches in diameter and also had extensions to the outlet pipes. I fitted this underneath the rear fork on the right hand side and had footboards above. It was absolutely silent except when the throttle was opened to any extent and, in addition to this, its position made it inconspicuous. Another distinct advantage in carrying it in this position was that the exhaust pipes were very long, with no sharp bends, and thus the exhaust gas was fairly cool when it entered the muffler from the holes in the exhaust pipe. Therefore, I say, make the muffler as large as possible and again, avoid any sharp bends in the exhaust pipe.

Now, a hint as to the correct way to bend an exhaust pipe without making any "kinks" therein. Fill the pipe with *dry* sand and plug the ends with wood; be careful to see that the sand is thoroughly dry or you may have an explosion when putting it in the furnace, owing to the steam generated therein. If a blacksmith's forge is handy borrow his blast furnace for a few minutes until you have got the pipe or pipes bent "just so." I did this job once with an ordinary fire built up of fine coal, but it takes a long time. An ingenious man can avoid this bending of pipe, for it is easy to construct the muffler with the pipe C separate from the main exhaust pipe, locking to it by a

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nut outside the end plate X. In the single cylinder pattern it will be noticed that the end of the pipe C *must* be closed by an end piece, while a lock nut helps to keep the end plate Y in place.

The two end plates should be of slightly thicker gauge metal than the outer case, and the edges can be cut and hammered over for the flange, or a separate flange can be either brazed or have internal angle pieces riveted to the end plate. It is more simple, however, to hammer over the edges carefully, cutting out slight triangles here and there. The whole can be finished with a dead lampblack paint or with black-lead (unpolished) and fixed with brass straps at either end.

In the twin cylinder pattern it is also better to support the muffler with a broad brass strap or two, to lessen the chance of the muffler coming adrift. Be very careful to make the muffler and parts a "dead" fit, as the vibration of riding will quickly "joggle" to pieces a badly made specimen. It will hardly be necessary to add that the lock-nuts at the ends should be screwed up firmly and that the end plates and outer case *must* be an absolutely gas-tight fit; otherwise the burnt gas will escape by the shortest route before it enters the outlet pipes.

As to the construction of this muffler, I have made them of sheet iron 1-16 inch in thickness for the end plates and 1-32 inch for the shell or outer case, of galvanized iron of the same gauge and of aluminum—the last named being easier to work if the shell be riveted and the end plates overlapped sufficiently Whatever metal is employed, stability must be the object aimed for and the holes must be accurately cut for the outlet pipes. Having procured your material and small soft iron rivets, shape the main exhaust pipe; if fitting a new one thread the end to receive the closed end nut; also, if possible, braze and pin a shoulder or collar behind the end plate X on the exhaust pipe to support this end plate more securely. Your outlet pipes A B D E should be in reality about two-thirds the size of main exhaust pipe; cut them to the required length and thread them to receive lock-nuts at both ends. In the case of the single cylinder model, close the ends behind the end plate X; in the twin cylinder pattern, leave both these ends open, as shown in the second sketch. Now cut the end plates with care and drill the holes evenly to receive the outlet pipes. Then make a hard wooden block, or, better still, find a large piece of iron stock to shape the edges and overlap them about a quarter of an inch.

This is the hardest part of the job and must be done with extreme care. Some metals are easy to work on and do not require to be cut for the purpose, but generally speaking, you will have to "nick" the edge here and there to obtain a perfect circle. The outer case can also be shaped upon this block and riveted carefully down the seam or joint. Then try the end pieces on and see that the ends are perfectly square and fit tight; if loose anywhere, the joint can be lagged with asbestos string. Now fit the outlet pipes in end plate X, having drilled the required number of holes according to the previous directions. Drill the holes in the main exhaust pipe C and slide X and the outlet pipes over through the large center hole which must be drilled for C. Then fit the shell carefully and afterwards the end plate, locking the same with nuts at A B D E and with end nut at C. If any slackness exists, correct it now by drawing up the flat nuts with large washers. The straps can easily be made of 1-32 inch brass strips and the stability of the whole mechanism may be improved by riveting the overlapping edge of the end plate X to the outer case of the muffler, which makes for great stability and a better job.

In the second drawing of this muffler, adapted for use on twin cylinder machines, the end nuts are not shown, their position being understood to be as in the former drawing. Nor do I show the collar on the exhaust pipe C, behind the end plate, as this can be done away with, although it should be fitted to make the result thoroughly safe from the effects of vibration. Purposely do I give only rough details, leaving much to the imagination and fertility of invention of the constructors.

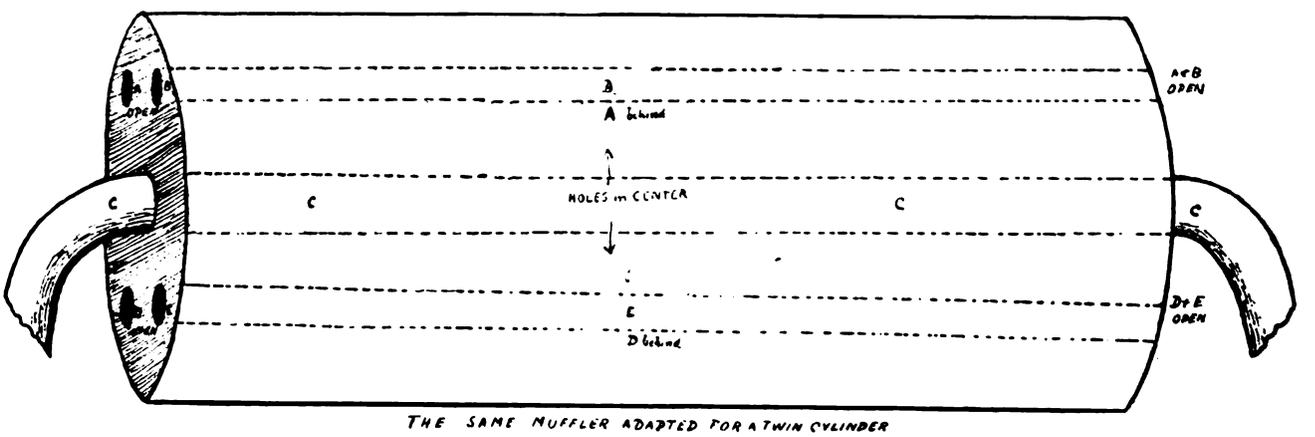
Don't forget to make the shell, end pieces, etc., gas-tight, to lock the outlet pipes securely, and to write to us about your success. ROLLAND C. LAURIE.

JOLIET, Illinois.—Joliet has developed a crank and enthusiast on motorcycling in Dr. Jas. MacCoy. He is one of those sort who help to make a sport great, but his letter, enclosed in an envelope on which was rubber stamped, "We want good roads," tells the story:

"I'm no boy in age, but I got the fever and handed over cash for to me as yet an unknown quantity—motorcycle. It's to be here soon, now on the way, and between time of fever starting and present, got after and obtained MOTORCYCLE ILLUSTRATED, and you bet I'm now plum full of how the thing should go EASILY, and expect soon to have it 'Motor,' know me as well as have my 'Bikes' for years past. The 'A B C' and ALL the rest is O. K., really good hot stuff.

"Sincerely,
"MACCOY."

ENTRY blanks for the Danville Hill Climb may be had from Lovell Gillespie, secretary of the club, or H. L. Miller, 27 Jackson street, Danville, Ill. The club has decided to hold the motorcycle events, of which there will be four, on June 9th, instead of the 8th, as originally announced. Entrance fee, which must accompany each application, is $3 for each event. There will be a free-for-all, and competitions for machines of 20.10, 30.50 and 61 inches cylinder displacement respectively. The last three events are for stock touring machines only.



THE SAME MUFFLER ADAPTED FOR A TWIN CYLINDER

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LEGAL STATUS OF THE MOTORCYCLE

BY EARLE L. OVINGTON

ONE of the most important problems before our Federation of American Motorcyclists is to have it legally determined whether the motorcycle should be classed with the bicycle or automobile, or be put in a class by itself, as regards legislation affecting the registration of the machine and the licensing of its operator. The F. A. M. has long taken the stand that the motorcycle has much more in common with the bicycle than with the larger four-wheeled vehicle. It seems ridiculous to place in the same class the little motorcycle, which makes a single track on the road, which weighs from 150 to 185 pounds, and which is less than five feet long, with the big, power driven four-wheeler, which takes up practically the whole of a narrow road, which may weigh thousands of pounds and which is upwards of ten feet long. About the only thing in common between the motorcycle and automobile is the fact that they are both driven by internal combustion engines. After this has been said the similarity ceases, and it seems puerile for our law makers to place these two vehicles under the same head.

The idea of restricting the speed of motor driven vehicles, whether a motorcycle or an automobile, is indeed a good one. Intelligent motorcyclists offer no objection whatever to sensible speed laws governing the operation of their machines. What they do seriously object to, however, is the necessity of carrying numbers on their machines, and taking out licenses for their operation. It is not necessary for bicyclists to do this, and the motorcyclist sees no reason why he should be obliged to conform to the automobile law.

Let us consider for a moment—the motorcycle vs. the automobile, from the standpoint of danger to the other road users, or to pedestrians. Looked at quickly from the standpoint of the motorcyclist, and considering only his own self preservation, the operator of a motorcycle is going to take good care that he does not collide with any other road user. For it is a matter of history that in almost every case where a collision occurs, the motorcyclist suffers as much, or more, than the other party, through the collision. In other words, the motorcycle being light, and on account of the fact that it is not supported in stable equilibrium, the operator is going to give other road users a wide berth. In the case of the automobile, it is not necessary for the man at the wheel to consider his own danger. In other words, if he runs into man or beast, the chances are that he will not be seriously injured. The car is so heavy that it can pass over an ordinary obstacle or be brought to rest by it, without necessarily injuring the driver, and on account of the fact that it is supported by four wheels instead of two, it remains in stable equilibrium, under most circumstances.

Then, again, owing to the fact that the motorcycle is much narrower, and occupies much less space on the road than the automobile, there is much less danger of actual collision. If danger of collision threatens the motorcyclist, in nine cases out of ten, in fact in ninety-nine cases out of one hundred, danger may be averted by a quick twist of the handle-bar. Furthermore, it is a comparatively simple matter to change the direction of motion of a motorcycle. In the case of the automobile, on account of the fact that it occupies much more road surface, the danger of collision is correspondingly greater. In other words, the danger of colliding with an automobile is about the same as the danger of colliding with four motorcyclists, assuming they rode abreast. Besides, it is difficult indeed to suddenly change the direction of an automobile to avoid hitting an obstacle. The fact that the machine runs on four wheels, and that the momentum is much greater than in the case of the motorcycle, owing to the fact that it is heavier, makes it more difficult to handle.

There is still another point of view which may be taken. On account of the small weight of the motorcycle, and owing to the fact that its braking power is much greater than in the case of the automobile, the two-wheeled vehicle can be brought to rest in a much shorter distance than the four-wheeled one. This was demonstrated during the last F. A. M. Endurance Contest, where each contestant was required to stop suddenly and without previous warning. In some cases, where the brakes were locked, the machines were almost instantly brought to rest, in spite of the fact that a moment before they had been traveling at a comparatively high speed. Under such circumstances, the tendency of the machine is to skid and actually face in the opposite direction. Where an automobile is running at a high speed, on the other hand, a much greater distance is necessary to bring it to a state of rest.

Looked at from almost any standpoint, the motorcycle comes much nearer being a bicycle than it does an automobile. As a matter of fact the motorcycle is nothing more or less than a bicycle, except that a gasoline engine has been substituted for the muscular power of the rider. To be sure, the motorcycle is heavier than a bicycle, and usually travels at a higher speed, but I believe that this is more than compensated for by the great braking power, which is a feature of the modern machine.

As I have stated before, this is one of the big problems before the F. A. M. This is just one of the many reasons why every motorcyclist who has real red blood in his veins should put his shoulder to the wheel, and if he cannot help the national organization in any other way than to simply join it, he should at least be willing to do that. We, as motorcyclists, cannot expect to have our rights protected unless we band together. Bear in mind that old saying, "In union there is strength," and if you are not an F. A. M. member, send in your application at once. There is no reason why the F. A. M. should not be a second L. A. W., and when that time comes, and I feel sure that it will, the motorcyclist will be able to assert his rights, and insist that he be given justice by the law makers of the land.

AT a recent meeting of the racing board of the Chicago Motorcycle Club it was decided to make the endurance test a three instead of a five days' affair, as originally planned. Dates probably will be named for the early part of July, it being the general sentiment that the event should be held after the Cobe cup races and before the start of the Glidden tour.

SEVERAL surprises were experienced along Motorcycle Row, Los Angeles, the other day, when measurements were made of the various racing machines that have smashed records at the Coliseum track. When the cubic displacement of the motors were figured it was found that all were well under the limits allowed by the Federation of American Motorcyclists.

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EXPERIENCE OF GLOOMY GUS

The Motorcycle Put to a New Use by a Weary Willie of the Roadside

By ALFRED H. BARTSCH

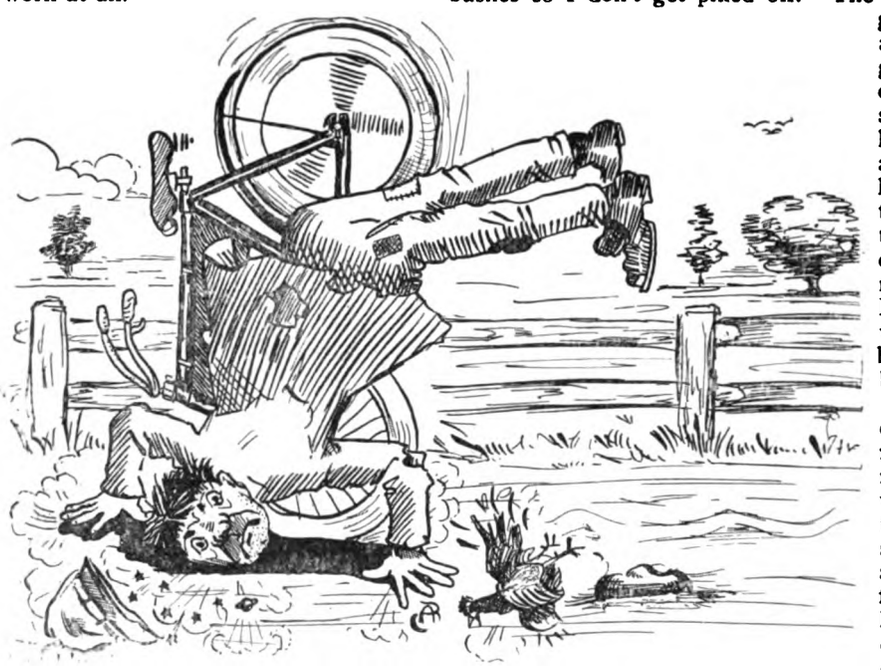
"WELL," said Gloomy Gus, the happiest tramp of the R. R. Truck and Freight Car Travellers' Union, "youse fellers may av had experiences that amounted to some, but I'll tell you one dat'll make any of yours look like a cat sewed up in a burlap.

"I'll never forgit de time I swiped a motorcycle and lived like a English lord in a palace car. You see it was dis way. I took a job in a bicycle store in a little village up the state, just to hold me over der winter and keep my bread basket from cavin' in. De boss had an agency for motorcycles, too, and had one in de shop—a big brute of iron it was, too.

"Now a motorcycle, fellers, is one of dose things like a bicycle w'at goes over de road like a streak of greased lightning, banging away for dear life and oftin waking us out of our beauty sleep. One redeemin' feature about 'em is yer don't have to work at all.

"Well, I'd always plodded around on de boss's push wheel, and had to work me brains out making a hill near de store, while de boss just used to jump on the benzine wheel of his, takin' the hills same as de level.

"One day last spring de boss was home to his grub, and de motorcycle was standing outside of de shop. It had always taken my eye, and ter tink dat I could beat it all over de country widout walkin' just kinder tickled me palate. So I accidentally takes French leave.



"De boss, as I says before, was away, so I makes up my mind to make a trial spin, as I didn't know anything about the workin's yet. I puts me leg over the bar and pushes off. I was on top of de hill, and of course de t'ing got goin' faster and faster widout a sound; den all of a sudden, Bang! Bang! Bang-it-te-bang! De air was filled wid a noise like a regiment of soldiers shootin'. De speed now got greater and greater—de engine part was running. On and on we flew, up and down hills and along de level at a mile-a-minute clip. Gee, but I was skeered! Me heart was bouncin' up in me throat, and I expected to see it spill out any moment.

"I'd heard of oilin' and retardin' throttlin' and advancin', but I never knew w'at it meant. I didn't know how to stop; I didn't know where I was goin' to land. I tell yer, fellers, I was in a fix. In front of me, fastened on de side of the tank, I sees a handle fastened on a thing like a glass syringe. Maybe that'll do something, says I, and gives it a pull. De glass was filled wid oil, but de speed didn't slacken. Den, all of a sudden, under me a clanking noise starts in—sounded like a regular boiler shop. 'Something's goin' to happen,' says I. The machine slows a little, and all skeared up I pushes the handle of dat syringe back again and de noise stops and de speed starts in again faster than ever—I'd gone and oiled the inside up, I guess, and I was in a worse fix than ever.

"Flyin' along for about five miles I came across a patch of sandy road, and began to doing a regular Salome, wabblin' from one side of de road to de other. Makin' a grab for de handlebars, I happens to pull a handle of some kind or other under the grip, and the thing stops nice as you please.

"As luck would have it, I was about 200 feet from a farm house and says I, 'Guess I'll put this thing in the bushes so I don't get piked off.' The garl darn thing, I guess, weighed a ton, and as I grabs it from underneath I lets a squeal out you can hear a mile. Talk about hot stuff, the little barrel-like thing under the tank (which dey calls de motor) was near red hot, and I burned me claw wid stripes like a branded western broncho.

"Well, I hadn't eat a t'ing since de night before, and my bread basket was growlin' away for feed. So I sneaks in de barn an' blinks around for somebody's lunch pail; but dere was nothin' doin'. Just as I was about to skip, I spies a hen's nest wid five or six eggs in it, and I just glues me mit on 'em an' hies over to de bushes.

"I opens one and starts to let it slide, when an idea strikes me which looks good: I sets de machine up agin de tree and tries de barrel for heat. It was still red hot, so I cracks a couple of eggs on de flat top, and say, boys, talk about your fried eggs. I was certainly livin' high.

"Dat night I sneaks out of de bushes and makes a town, when I strikes an oil shed and fills up me tank wid gasoline, wid de kind permission of Yours Truly. Next day, bright and early, I was goin' again, and while enjoyin' de scenery discovers dat de oil syringe won't give any more oil. While doping out what would happen, I mixes it up wid a chicken, and we both land in de dust.

"After I came to me senses and sees de machine is O. K., I pikes de hen still kickin' in de dust, and wid a twist of her neck puts her out of misery and stows her

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away for a rainy day. Jumpin' on de machine again, I pedals me legs off before I gets him talkin' and movin' again, and away we slides over de roads for de mountains, which were a couple of miles off.

"Soon I struck into de grades, and de motor set up a clankin' again. I tries de syringe but dere's no more oil, and de way de inside of dat little iron barrel was hammerin' skeared me most to death. Higher and higher we went, still knockin', till all of a sudden we sticks fast. If de barrel was hot before, it was twice as hot now, 'cause I could feel de awful heat agin me legs. Says I to meself, guess I better get off and wait up till the garl darn thing cools a bit, and I did. Me bread basket feeling empty, I begun to look around for sometin to eat when I spies the chicken I hit some miles ago. Me for broiled chicken, says I, and stripin' de boird of her fedders and layin' de machine over on its side I puts a wing and leg in dat little barrel, and, say, fellers, dat made de handiest grid' you ever see, de swellest thing you knowed."

"Well, did yer get any farder dat day?" asked Tin Can Harry.

"Oh, yeh, I pretty near forgot. I sits dere munchin' away, I spies a carriage comin', and thinkin' I recognized a star shield on de driver's coat, I felt kinder conscious and grabs me machine fer to beat it.

"Couldn't start her; pushed, shoved, pedalled, but nothing doin'. De carriage was gettin' closer and as a last chance I pulls it way up on the bank, and den running down wid all me might to de road, she pops. It nearly pulled me arms out, but I kept hold and sprawled into me seat.

"Everything looked merry as I soared up de mountain, till all of a sudden dat old clankin' starts in again and de little barrel was gettin' mighty hot. I didn't know what to do, wid de sheriff behind and de hills in front. I was certainly in a fix. I tries de oil pump; nuthin' doin. I pushed every lever dere was to be found and twisted de handles all de way round. The motor gave a jump and tried to go faster, but soon slowed down, slower and slower. Now came de barks, and noticin' me trousers smokin' I looks down at dat barrel; it was red hot. Wid each bark it would swell up and den shrink back, just like a hard breathin' horse; slower and slower we went, when all of a sudden it swells up into one great, big, red hot bubble and——"

"And what happened?" cried the interested chorus.

"Well, three weeks later I woke up, and, borrowing a basket, rake and lantern, I tried to find me faithful portable stove, but dere was nothin' pertaining' to it left. But I tell youse, dose motorcycles are de cheese—no work, got a freight train skinned for covering ground, and you always got your stove for roadside dinners.

A RADICAL departure in the method of constructing improved highways by State aid is under contemplation by the New York State Highway Department and it is believed that the durability and permanency of the improved roads will be materially increased thereby. The enormous increase in automobile traffic has demonstrated beyond question that the macadam construction heretofore in vogue, while entirely adequate in regard to drainage, foundations, sub-base, etc., is deficient in regard to the top course or wearing surface.

It has been found that if the top course or wearing surface of the macadam highway be constructed with a bituminous binder the fine material is held in place, which not only does away with the dust nuisance but also prevents the rapid deterioration of the roadway due to the action of the automobile traffic on its surface. While the original cost is somewhat larger, yet the decrease in expense of maintenance and repair in the future more than offsets the increased cost of original construction.

F. R. Serles and the Pierce machine upon which he recently made the New York Club's double century without a single adjustment.

SACRAMENTO, CAL.—Fred Huyck will probably be among those who will enter the big meet to be held on the Agricultural racetrack in this city June 6th. An agreement has been entered into with the San Francisco Motorcycle club by which that organization will enter six of its best riders in the meet and allow all of its representative riders to enter in the second class contests. The club has a membership of 300, and has guaranteed to send half that number as a delegation to the meet. Other prominent riders who will take part in the meet are the Frenchmen, Zimmerlin and Giania.

Mrs. A. Weber, of Chicago, on Her 2¾-h. Indian

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FIRST SHOW AT ATLANTA, GA.

IT would seem to be somewhat too early now to look forward to the opening of the show season, but inasmuch as the dates for the three big exhibitions have already been set, and in view of the fact that preparations for one of these are now in the making, this notice cannot be considered at all premature. Atlanta, Georgia, will make the first splurge, during the week of November 6-13, and it is no exaggeration of the facts to declare that Georgia, and the South in general, has gone motor mad. The Atlanta Chamber of Commerce members have already subscribed more than $100,000 for a two-mile track, which will be in shape by the time the show opens. The two-wheeler will, of course, be represented; in fact, the motorcycle display at the Atlanta Show promises to mark a record. Here are the show "fixtures" to date:

November 6-13—Atlanta, Ga., Auditorium-Armory, National Automobile Show.

January 8-15—New York City, Madison Square Garden, Tenth National Show, Association of Licensed Automobile Manufacturers.

February 5-12—Chicago, Coliseum, Ninth Annual Automobile Show, National Association of Automobile Manufacturers.

RACING POPULAR IN CALIFORNIA

RACING in and around San Francisco has been given a great impetus this season. The San Francisco Motorcycle Club has three race meets now in prospect. On June 6th the first meet will be pulled off at Sacramento, at Agriculture Park. This will be a big event and the local club will send six of its fastest machines and riders to compete. W. G. Collins (Indian), A. Chelini (Thor), P. L. Peterson (Curtiss), L. Heise (Merkel), Guyot (Peugeot) and Karslake (Curtiss) will be among the competitors.

At a picnic which is to be given under the management of the Eagles of this city, there will be an afternoon's entertainment of fast riding, at Tranforan track, in this city, on June 20th.

Dr. Letcher and wife recently made the trip on their tandem to Los Angeles and report that the roads from this city to the south are in excellent shape. W. S. Siemon also arrived recently in this city from Los Angeles, making the trip on his motorcycle, as did Mrs. W. C. Collins, who went to Los Angeles to say farewell to her many friends in that locality, preparatory to making an extensive European tour.

MOTORCYCLE SPECIAL DELIVERY SERVICE

WASHINGTON, D. C.—At the suggestion of Postmaster Hagarty, of Hartford, the postoffice department has decided to try an interesting experiment in Hartford. The postmaster wanted to use automobiles for the delivery of special letters, and came to Washington to lay this matter before the department. The department, however, decided that motorcycles would be better, and two will be put into operation from the Hartford office at once. If it is found that this idea works well, it is probable that motorcycles will be used in all the large postoffices for special delivery letters.

THREE ACCIDENTS RESULT IN DEATH

SINCE our latest date of publication, three motorcyclists have met with fatal accidents. Among them was W. B. Genella, Jr., the popular Merkel-Light salesman, who was run into by a street car, in front of the Majestic Hotel, Indianapolis, and instantly killed. Genella, who was 24 years of age, had been travelling in the South and West for the Merkel-Light Company for several months and had made a success of his trip. Previously he was located in Washington, D. C., where he had won such fame as a racing man as to attract the notice of the Merkel people.

The other two victims were John K. McLaughlin, a postal clerk in Newburgh, N. Y., who was impaled upon the shaft of a farm wagon; and Earl Studwell, of Stamford, Conn., who was thrown from his machine by a runaway horse, and trampled to death.

DE ROSIER CHALLENGES THE ENGLISH

JAKE DE ROSIER reached New York Friday last. The crack professional is very "sore" over the treatment accorded him on certain occasions in the West, and was so wrought up over the refusal to permit him to ride for the mile-against-time record on Sunday, the 23d, that he did no racing at all that day.

De Rosier, through his new manager, A. G. Chapple, has challenged the entire English racing fraternity. He prefers to meet Collier for the 100-mile championship, though he is willing to take on anyone, at any distance, who is willing to cover the Indian space-eater's money.

HEARST TO BECOME A MOTORCYCLIST

WILLIAM R. HEARST, the owner of the New York American and about a dozen other newspapers and magazines, will shortly become a motorcyclist. Mrs. Hearst has placed an order for a four-cylinder Pierce with F. A. Baker & Co., the Pierce agents in New York, and will make her husband a birthday present of the machine. Mr. Hearst expects to make use of the machine during a European tour.

THE F. A. M. GETS $626.56

THE F. A. M. 1908 Meet Club has wound up its affairs and the Federation will come into $626.56. The club, which was organized for the purpose of promoting and conducting the F. A. M. national meet, held in New York in July last, has been dissolved, and the balance in hand has been turned over to the treasurer of the F. A. M.

AN Excelsior, ridden by Callaway, captured first place in the 14 mile race on the Brookwood road, Atlanta, Ga., Saturday, May 22nd. Sisson, also an Excelsior rider, was second, Moore, on a Yale, third, and Norton, on an Indian, fourth. The winner's time was 19 minutes.

A twin Thor, ridden by John Link, did wonderful work in a road race at Indianapolis yesterday. Distance 81 miles; time, 99½ minutes.

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MOTORCYCLE ILLUSTRATED

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F. P. PRIAL

J. LEO SAUER - - - - - - - - *Editor*
L. H. CORNISH - - - - - - *Advertising*

F. A. M. AND COMPETITION RULES

NO reform propaganda has ever been greeted with universal acclaim. Little did we expect, when we published our F. A. M. reorganization and rules revision suggestions, that our esteemed contemporary would do us prompt obeisance, and with a "You are right, entirely right, gentlemen," agree with us in all we had to say. On the contrary, it is quite natural that our friend should show some resentment over the effort of another publication to advance modest proposals in a field which he has hitherto so jealously monopolized. We are told that our article was "inspired" by the gentleman who occupies the F. A. M. presidency. This, surely, is news to us. Strange that we ourselves should have known nothing about it. Equally strange that we should have given our ideas publicity under the impression simply that we were speaking our own mind regarding the conditions and the prospects of the F. A. M. The only inspiration of which we had any knowledge was one having to do with a determination to speak the truth and, to repeat our own language, to "throw into the crucible of discussion" a few proposals for satisfactorily reformative measures. As a matter of fact, we are apprised that our article was "well-intentioned." But there's apparently an inference to the effect that there is but one who knows anything at all about the F. A. M. and competition rules, in whose august presence none other must whisper, or even attempt to think. We regret exceedingly that we must destroy these fond illusions. Anyway, we're anti-monopolistic to the core, and we have a faint notion that, winter or summer, spring or fall, there's a whole lot of satisfaction in rattling the dry bones of prejudice and self-conceit.

We printed a single line, "Why this mystery?" and it has produced an entire page of revelations. We did not even intimate anything about a shortage of money, notwithstanding which fact great pains are taken to inform us that it is all "in the safe." Why this tremendous mountain if there had previously been only a molehill? We have questioned no one's honesty; wherefore, then, these painfully elaborate explanations, if there was nothing to explain? Why is the President attacked in an endeavor to protect the secretary? Why are the secrets of official dissension trotted into the limelight? We cannot see how that procedure makes the situation any plainer. Why is one official selected as the special object of our contemporary's solicitation, when we made it clearly manifest that the questions involved had nothing at all to do with individuals, that no individuals, but the system itself, as Lawson would say, was entirely responsible for those conditions which are unsatisfactory, and which ought to be reformed.

Our contemporary makes a number of excellent suggestions. Its reply is far from stupid. It propounds several good reasons why the present professional-amateur classification should be continued, though these arguments are not at all any more convincing than those advanced by disinterested experts who favor a number of radical changes, along the lines we have suggested. The fact remains that the competition rules of today have been made farcically ineffective. It is true that a mere change of designations will work no great, if any, improvement. Instead, there are principles at stake, the most important being the need of making the F. A. M. competition rules as automatic as possible in their operation. As in the case with laws for the regulation of public utilities, those provisions which offer the least opportunity for individual interference, are unquestionably the best.

It were silly and immoral to make use of this controversy to indulge in personal animosities or with a view to determining which paper can use up the most printer's ink in a childish endeavor to have the last word. The interests of the F. A. M., and the propagation of a healthful sport under prospering circumstances, are at stake. To these conditions all others should be made supplementary. It is admitted, in the first place, that the F. A. M. is not as strong as it ought to be; secondly, that the present competition rules, while beautiful in theory, are all but worthless in actual practice. This paper is pledged to reasonable reform in both these particulars. The means are of no great consequence. The end's the thing.

Meanwhile a final word. MOTORCYCLE ILLUSTRATED does not under any circumstances intend to make itself the advocate or mouthpiece of any person or party. A friend has written that our article was "the sounding of a trumpet." We take the liberty of believing that this is perhaps the best thing that could be said of it. In any event it expresses our *intention*. We are glad we printed our blast; also equally pleased that our contemporary has made so exhaustive a rejoinder. All this is bound to work a great deal of good. What the F. A. M. needs is discussion; and the discussion already started is sure to result in advantageous evolution at the forthcoming annual meet.

IN a further talk in this issue, in which he compares the yesterday and the today of motorcycling, George W. Sherman says a final word to the dealer: "Preach reliability," says he; "let the racing game stay in a class by itself. Talk road ability." That is altogether wise, profitable and true. Racing is a thing apart. It is a splendid advertisement for the sport. It makes converts to motorcycling. But for the non-racing man the crowning glory of the motorcycle is "road ability," day in and day out reliability.

COMING EVENTS.

June 6—Sacramento, Cal., Meet.
June 6—Philadelphia Motorcycle Trade Association's Run to Atlantic City.
June 9—Danville, Ill., Club's Hill Climb.
June 9—Races, Louisville, Ky., Fair Grounds.
June 12—Worcester, Mass., Hill Climb.
June 12—Pt. Breeze, Philadelphia, Races.
June 13—Concourse Club's Spring Run.
July 5—Races at Yates County Fair, Penn Yan, N. Y.
August 1—Century Road Club Association's annual run; motorcycle division.

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TIPS AND TOPICS

RECENTLY I owned a magneto twin-cylinder mount which was a source of continual joy on account of its extreme reliability under all conditions of weather. Several thousand miles were accomplished without trouble in any form, until one day the brag of reliability received a severe short-arm jab, as the poetical Jim Jeffries would say. When the trouble did come, it came in large chunks, and the mystery would have kept even Sherlock Holmes guessing for quite a while. I was out for a week-end tour and was about forty miles from home when the "forrard" cylinder started to take a long vacation. I "tinkered" a while, overhauled the plug and cleaned the contacts of the magneto, but with no result whatever, beyond loss of temper. Then darkness came and found me still fondling the machine. I could get a spark from only one terminal; the other was "mute." I ran on for a few miles to a friend's house, with the engine firing one cylinder, to investigate further in the light. There I spent an hour in a seemingly fruitless search, but in the end the enigma was solved. In taking out the carbon brush which "distributed" to the dead cylinder, I found a minute and almost invisible crack in it. Luckily I had a spare one in the kit, and, fitting it, found that the mystery had been unraveled.

I may mention that to a long-distance rider spare magneto parts are a blessing. Only three times in my magneto career have I had any trouble. Still, I always carry spares, as I have learnt my lesson. Spare contacts, contact breakers and carbon brushes are all that may be necessary, and these should be carefully packed in a small tin box and wrapped up so as to be well protected. From this experience of mine the charm of a twin shows up in another light, for if one cylinder goes out on strike you can "get there" by running the other one, which is certainly better than having to push or pedal the machine, to the joy of the man in the street.

While the magneto rarely gives any trouble, several little points have to be borne in mind. First, as I pointed out in my magneto lecture, the points of the contacts have to be 0.5 m. m. apart. Now there are men of engineering genius who can tell you this measurement at a casual glance; but I am not one of that number and I trust to the little gauge which the kind magneto manufacturers usually supply with their outfit. The magneto contact screw can be packed, when worn, with washers cut from very thin sheet brass. These washers can be inserted under both platinum screws when they are worn, and after they have been refaced by using the jeweler's file, of which I have made former mention, get that gap 0.5 m.m. when readjusting the screws. These very thin washers come in handy also on a battery ignition model. They can be threaded on the contact screw to fill the space between the screw hole and the head, and when adjustment of the contact points is needed, all there is to be done is to take out the screw, take off one thin washer and screw the contact home, after refacing as before.

On Carrying Spare Parts.—How often does the rider jumble all his spares into one toolbag! Many a time have I seen a slovenly toolbag unpacked and out would tumble a muddle of spark plugs, old and new, spare valves, springs, wrenches and such like, a veritable junkshop. I did this until I learnt some expensive lessons by having heavy wrenches dint my spare valves and smash various spark plugs. Spare valves can be carried in a piece of 1½-inch square-sectioned wood with a hole bored through the center, through which the valve stem may be passed. The piece of wood should be shorter than the valve itself and thus the stem will protrude, say, just as far as the hole for the cotter pin. Then pass a piece of copper wire through this hole, form a loop and all will be secure. To insure further safety wind some rag round the wood at the head. Furthermore, I have made it a habit to keep all my spare parts in one toolbag, and use another, provided with a neat tool roll, for my wrenches and tools.

On Pumping Tires Hard.—A tire which is fully inflated, and always kept in that state, will last much longer and give better service to the user in every way. The reason for this is that when the tire is ridden half inflated the walls of the shoe are continually subjected to strains on passing over the road surface. This causes undue stretching of the fabric, and weakens it considerably. Again a soft tire is more likely to get cut and punctured by small flints; if these cuts are not filled trouble soon develops, and it is needless to add that tire troubles are enough to make the whole trip look gray.

Gasoline Fillers.—Two points to which our manufacturers ought to look have to do with gasoline and oil tank fillers. The threaded screw type so commonly used is, to say the least, annoying, for occasionally one happens to be in a hurry to "fill up" and then it is that this point strikes home. Unscrewing a cap seems to be at the most but a makeshift to attain the end desired, and yet we poor mortals have to put up with it. To bring the matter tersely home one would have to make a sort of post-prandial speech and cite the instance of the Committee for Roads Improvement of the Town Council of Bingville, when the chairman said: "Gentlemen, let's put our heads together and have a wood pavement!" These little matters have to be pointed out at times, so now, Mr. Manufacturer, have I your ear? Why not make the filler a gastight spring cap; this would be easy to accomplish and riders would bless your thoughtfulness. These caps could with advantage be made one and one-quarter inches in diameter, and the usual air valve could be put in its accustomed place. Another item might be embodied in the idea, namely, the inclusion of a straining gauze, which would be an additional safeguard against fishes and other fauna and flora getting into the tank. We all know that the average garage funnel possesses a strainer "with an unclean spirit," and that all kinds of treasures are given free with the familiar can of gasoline; mayhap it is part of the Oil Trust's premium scheme.

"Twisting" of V Belts.—A friend brought his machine to me the other day and asked for the solution to an enigma. It appears that on his 1909 machine the V belt twists right round after a few miles of riding and, no matter how tight this belt was kept, the same thing would result every time. On first looking at the machine, I naturally thought that the pulley and belt rim were not in alignment, but, after carefully testing to verify this theory, I found that I was "at sea," for the grooves of the pulley and belt rim were absolutely as they should be. Now I possess a small and useful belt punch on the thumbscrew principle; this has a gauge for testing pulleys, which I have found very handy at times. I applied the test, and found that the pulley was not made with a 28 degree groove. This was a careless oversight on the part of the maker of this motorcycle, for he used an imported five-eighths-inch belt, which had been made for the standard 28 degree pulley. When the manufacturer had replaced the pulley with one of correct V section, the trouble ended and my friend thinks me a second Nick Carter, forsooth! Often mud and grit in its grinding action will wear a nice, straight-sided 28 degree to a humbacked 60 degree, particularly with a V leather belt. For this reason, the rider who does his motorcycling in bad weather should keep his belt clean, by attending to it after each run. A worn pulley will soon produce irritating belt slips, and, moreover, a new pulley is the only cure for this evil. As Euclid says: "in the same way it may be proved" that grit and mud will soon wear out of pitch the best chain and sprocket ever made; so, ye chain-users, look to it as well!

A Simple Belt Guard.—A good way to prevent mud dripping onto the belt from the rear mudguard is to fix channeled extensions, made so as to be detachable, from the back stay to the end of the guard, fixing this by means of a brazed clip. From the stay to the rear left-hand fork the guard can be made flat so as to enclose the tire. The top portion of this extension to the mudguard has to splay outwards and overhang the belt rim, extending an inch or so beyond it; the inner edge should run under the rear mudguard, so that all mud "splashings" will run the liquid away to where it can drip off without touching the belt. If the rider desires this extra guard to be permanent he can fix this arrangement with stays, on either side of the wheel. It must be understood that this extension top mudguard should run under the "mudguard proper," being fixed about a quarter of an inch below it and running in about three-quarters of an inch; thus the drippings

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from the real mudguard fall on top of this extension and run down it to the channel at the edge. Care should be taken to shape the bottom end of the further flat extension, which runs down to the bracket from the stay, so that the mud will fall clear of the lower stretch of belt. If the careful rider fixes this arrangement for stormy weather riding, he will be able to keep the belt or chain reasonably clean, and that alone is worth a few hours' work. You can make these extensions in one piece if you use a little ingenuity; tin or sheet iron (thin) are the best materials to work on.

Some Queer Repairs by the Roadside.—In looking backward to many experiences in one's motorcycling career, the point raised by the foregoing paragraph always stands out prominently, namely, the ingenuity which our sport sometimes forces us to introduces into unmechanical brains. A motorcyclist is a monument of independence—he trusts to his own powers to surmount any roadside difficulty which may present itself, and gradually, as his experience widens, the rider gains such confidence in his own ability to tackle any type of repair, that nothing short of a cracked cylinder seriously bothers him. Our British contributor, B. H. Davies, if I remember rightly, used to think nothing of replacing broken piston rings by the roadside, and I can remember one genius who sideslipped and broke his spray carbureter, which was fitted in an exposed position. The carbureter was only fit for the junk heap, but our hero, who had graduated from the old school, actually went to a tinsmith, and, cutting an air slide in his battered inlet pipe, made a wick carbureter out of an old tin can, a piece of wire and a strip of rag. What is more, it took him home thirty miles with only an occasional misfire.

Once I broke the trembler blade on a trusty De Dion engine. I had no spare part and was miles from a garage or a repair shop. About half a mile down the road was a village, and there I found a deserted blacksmith's shop and raked amongst the junk. Now the only piece of steel I could find which seemed at all likely was a thin corset steel which at some time had graced the form of a fair village damself. I riveted the platinum therein, formed a hump at the end, punched a screw hole and got home safely. It is a wonderful thing how handy hairpins are, too. I know a man who says that he married in order to have a supply for cleaning his pipe; but I can remember making a temporary automatic inlet valve spring with one, when nothing else came to hand, and it did the trick, too, though it had to be pulled out occasionally to get the tension.

Talking of Inlet Valves., the cleverest repair I have ever seen was done by the roadside during a club run. The valve was a mechanical one and the stem broke in half. The rider wound some copper wire tightly round the broken stem, fixed an elastic rubber band to a loop in the wire, led this rubber band away from the cylinder and fixed it in a loop of wire fastened to one of the crank case bolts. The result was an automatic valve which actually ran seven or eight miles to the nearest town.

THE NEW F. A. M. EMBLEM

UP to the present time, an official drawing of the F. A. M. emblem has not existed. The only record of the emblem itself has been in the form of the well known pin. Furthermore, I have had it drawn to my attention several times that the cylinder on our old emblem looked more like a stove pipe with a cap upon it than the cylinder of a gasoline engine. For the above and other reasons, I have had an artist submit several new designs, the best of which were submitted to our Executive Committee for its approval. The vote of the Committee was unanimous in favor of the new emblem, cut of which is enclosed.

Hereafter, this will be the official emblem of the F. A. M. I have sent to several manufacturing jewelers for estimates on a new pin, which will shortly be ready for distribution. Watch fobs and other articles of jewelry from this emblem can also be obtained at a later period.

Very truly yours,
EARLE L. OVINGTON, President.

QUESTIONS: CORRESPONDENCE

H. F. FISHER, Coldwater, Kan.—You are right in your diagnosis as to the carbureter. We have examined the symptoms and they point to one or two causes. First of all, the trouble is with the float, as this either gets stuck or may have sprung a leak. This may have been caused in various ways, among them a too "vehement" punching of the "tickler" for flooding the carbureter for starting. Now, this need only be depressed for a second or two and the machine will start up easily.

The carbureter is leaking obviously from the float chamber to mixing chamber and so to the outside. Thus the float must be stuck or held down below its proper level, and thus too much gasoline enters and the float does not rise properly to close the valve as it should. Take the carbureter to pieces, verify this, and, providing the float is not punctured, "face" it so that it works freely, or get a new float. Then grind in the needle valve with corn emery and a drop of oil so that it rests evenly upon its seat, and adjust the carbureter carefully, as per our rules in the recent A B C chapters. Now, supposing the float is punctured, gasoline will have got in and this will disturb the action of the float, as it is so constructed as to adjust its own weight and buoyancy to close the valve at the correct time. You could probably detect this by listening, if there is any gasoline in the float, or by the weight of the same, as it should be very light. If there is gasoline in the float, the only way to get rid of the same is by evaporation and a subsequent repair of the hole through which the gasoline originally entered. This requires great care and should be done as follows: First, make a new hole in the float with a needle, and, getting some boiling water, plunge the float into this, holding it down with some pliers. The gas will come out at the hole you have made and the puncture—look for both—and note where the bubbles come from. Repeat this until there is no more gasoline in the float, and put the float in a hot place to dry thoroughly for a day or two, taking care to mark the two holes in it so that you can find them again. Be sure to let the float get thoroughly dried out, but do not bake it in too hot a place, as this might melt the solder in places and make it worse than it was before. When dry, carefully solder the two small holes with very little solder, facing it down as thin as possible and using only just a small speck for each repair. The reason for this is that the slight weight of the solder would disturb the adjustment of the float, making it heavier, and thus opening the valve more. When adjusting the carbureter, finally see that the gasoline only rises to one thirty-second of an inch below the jet. We do not hear of many experiences such as yours; there must, therefore, be some reason to which this is traceable. Perhaps it is, as we suggest, a too violent agitating of the plunger button or something of this description.

We have never had any trouble with the tire you mention. If the trouble is on the back wheel tire perhaps you have the same out of alignment, as this quickly wears out the best tire, or, again, if you are using a chain drive, perhaps the friction conpensating clutch is not slipping sufficiently and thus you are getting too direct a drive, thus making the engine impulses impart a jerk to the rear wheel.

I ENJOY reading your paper, although I am comparatively a new rider. I have no intimate friends who know anything of the sport. I am anxious to tour from New York to Maine from about July 1st to July 18th, and perhaps a suitable companion could be found from among your readers. If you know of such a person, I will appreciate the introduction. A camera fiend would be most enjoyable, as the two hobbies go together nicely on tour.

Hoping to hear from someone who could be interested in this proposition, I am

Yours very truly,
H. E. STOUT.

(Mr. Stout's address is the Psi Upsilon Club, Madison Avenue and 42d Street, New York.—Ed.)

If "John Smith" will supply us with his correct name and address, we shall be pleased to answer his questions.

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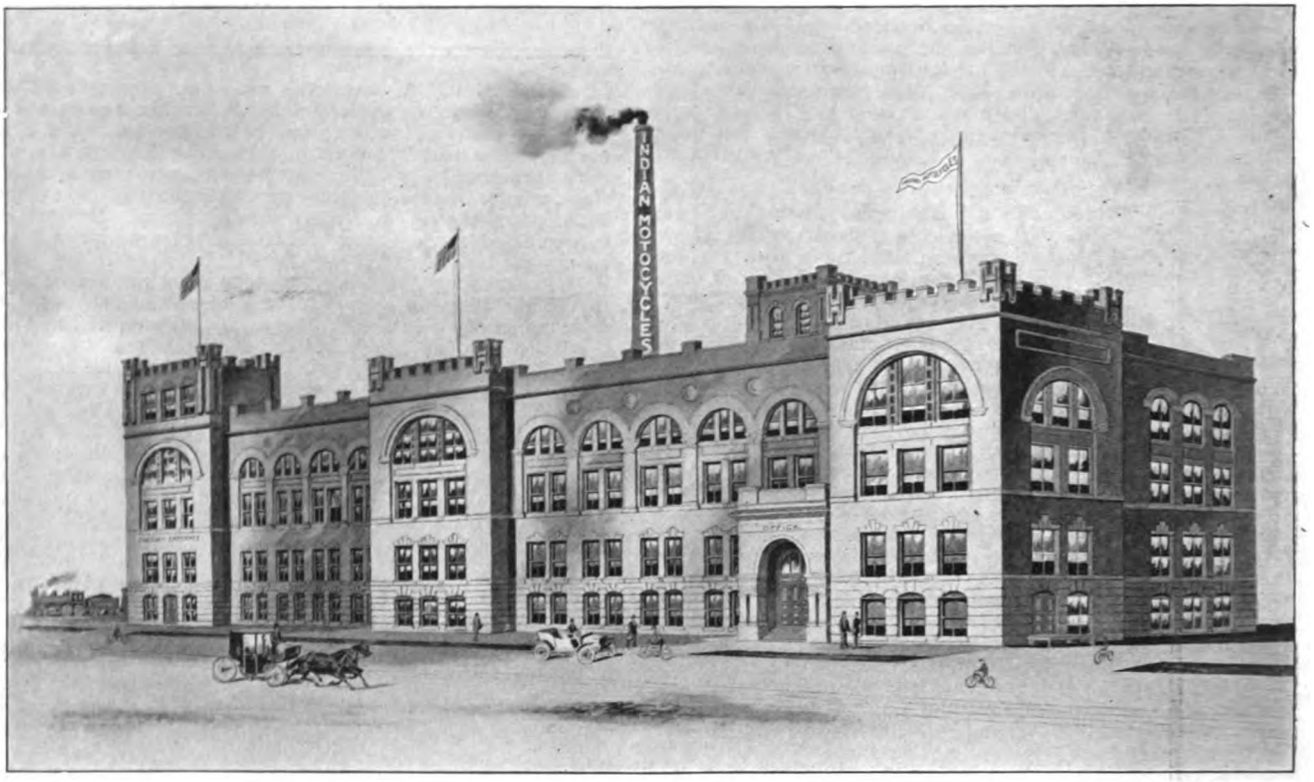
CAPACITY OF HENDEE MANUFACTURING COMPANY'S PLANT TO BE NEARLY DOUBLED



THE above cut shows the Hendee factory as it will appear when the addition is made. The present building is 150 feet long by 50 feet wide and four stories high. The addition will be 104 feet long, by 50 feet wide with a wing 38 feet by 50 feet. All of the new portion will be five stories high, which will very nearly double the space now available for manufacturing purposes, and it will be ready before next season, as the work is being rapidly pushed.

Besides this addition there is a line of small buildings on the Wilbraham Road front of the property, which came into the possession of the Hendee Manufacturing Company when it purchased the property last fall. These buildings are about 240 feet long by 40 feet wide, with a wing 30 feet by 50 feet, and two stories high. The sheet metal department, grinding, polishing and plating departments, the repair room and carpenter shop were removed from the main building to these new quarters. These increased facilities have made room for a force of 350 men during the present season, thus greatly increasing the output of Indian motorcycles, which will be fully 50 per cent larger next season.

The latest catalog of the Prospect Motor Company, 1900 Broadway, in addition to showing a full line of standard accessories, will list a number of new specialties of its own manufacture. The new Simplex Belt Punch is worthy of special attention. It differs from any other in the market in the fact that the hole is forced through the belt without removing any of the material or cutting the fibre. The strength of the belt is not impaired and there is no danger of the fastener pulling out. 50c.

Simplex Belt Fasteners are now supplied with quick detachable link, so that belt may be taken off machine without the use of a screw driver. The fastening screws have a unique locking arrangement, effectively preventing them from working loose, and several small tongues in the face of the clamps give increased gripping surface and reduces the tearing strain of the screw.

The many advantages of the Simplex Adjustable Pulleys are now well known. Many riders have been surprised by the increased power and speed of their machines when fitted with this pulley, not due so much to the increased efficiency of the V belt drive as to the possibility of getting the gear ratio most suitable for their motor. An adjustable pulley, rear belt rim, and V belt with coupling, is now supplied to fit any standard machine at price of $12.

Most ignition trouble is caused by faulty contact points, and the Prospect Company are now supplying heavy iridium-platinum contacts that are guaranteed to give satisfaction. These will be registered as "Diamond" points, and as they are the form of a small rivet they can be read-

ily inserted in any form of commutator. The price is 25c each.

Arrangements have also been completed to carry a full line of genuine Bowden cable, and fittings for handle bar control of spark and gas, valve lifters, band and rim breaks, etc. These various attachments come complete, with wires of any desired length, and fitting is a very simple matter. The prices are reasonable, and the finish and workmanship most excellent. The size of cable generally used for various operations on a motorcycle sells for 15c per foot.

Peugeot Motors, with a full line of suitable frame fittings will also be handled extensively by this concern. Catalog will be sent upon request.

Splitdorf European Agencies.—The success of the Splitdorf ignition apparatus at the Paris show, and demands for these goods by European manufacturers, have led to the establishment of Splitdorf agencies in the principal cities. They are: Paris, 88 Avenue des Ternes; London, 139 Long Acre; Turin, Italy, 64 Via Santa Chiara; Brussels, Belgium, 33 Square Guttenberg, and Barcelona, Spain, 433 Consejo de Ciente.

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EVOLUTION OF THE MOTORCYCLE TIRE—THE PENNSYLVANIA FLAT TREAD TYPE

Evolution of Motorcycle tires has progressed from two opposite directions, and between what may be termed the two classes, there still exists quite a gap. One section of tire manufacturers took the bicycle tire as a basis, adding weight and strength to withstand the severer motorcycle requirements. The other line of procedure is patterned after the automobile tire, with reduction of weight and size to conform to special motorcycle needs. Among the latter is the Pennsylvania Rubber Company, of Jeannette, Pa., all of whose motorcycle types are modified reproductions of their larger, heavier automobile tires, and constructed in the same way.

This company holds that the wear and tear on tires inflicted by the powerful propulsion of motorcycle engines is as great as, or greater than that of a high-powered automobile, per unit of weight. Along this principle the Pennsylvania Rubber Company has this year added a still heavier and stronger type to its family of motorcycle tires. The new tire is styled the Flat Tread Type and is a modified reproduction of the Pennsylvania Flat Tread Automobile tire, being of identical construction except in points of weight and size. Not only does this new motorcycle tire afford an extremely heavy and durable tread, but the tire also presents marked non-skid efficiency. Another feature, and one that will make its own distinct appeal to cycle motorists, is the reduction of shock and jar, brought about by the additional quantity of rubber, though the greater resiliency it provides.

Another tire specialty of the Pennsylvania make is the steel-studded non-skid. Especially designed for the strenuous requirements of racing, this hardened-steel-studded chrome leather protected tire has also become very popular among non-professionals who go in for fast road work. Especially advantageous is this tire on rear wheels. The motorcycle used with side car attached is given greatly increased efficiency with this tire as rear wheel equipment, as it "bites" the road and prevents loss of traction, especially on grades.

Norfolk, Va.—Eph Ball is president of Ball & Co., brokers, and the local agent for the Indian, which has become a very popular machine in Norfolk through his efforts to get it before the people. He is one of the most energetic and aggressive of Norfolk's young business men and has always taken an active and keen interest in everything that has been done to advance the city's standing in the commercial world.

A very handsome piece of work indeed is the R. S. 1909 catalogue. The artist and the printer have done their best to "show up" the Reading Standard line, both as to the machines themselves in their entirety and all the parts. The chapters on the R-S. motor, carbureter, spring-fork and many other special R-S. features make good reading. The $350 quick delivery van will interest. The catalogue will be sent on request

CAPITAL CITY WHOLESALE DEALER'S SUCCESS WITH N. S. U. DELIVERY VAN

THIS cut shows the 6 h. N. S. U. delivery van, with two-speed gear, lately purchased by James Oyster, of Washington, D. C., the largest wholesale egg and butter dealer in the "District of Columbia." Mr. Oyster is very much pleased indeed with the vehicle and is astonished at the wonderful economy and speed of the motorcycle delivery system. The engine is of 3-inch bore and 3⅛-inch stroke, the machine being fitted with Shamrock Gloria belt drive, Bosch high-tension magneto (gear driven), leather-studded tires, 26 by 3 inches on the rear wheel and 24 by 2½ inches in front. The machine has proven satisfactory in every sense of the word.

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Corrugated Tread

On Road or Track, it is a

INDIANAPOL

Make Far Th

ON THE ROAD

In New York Motorcycle Club's Double Century Run

Of the 87 riders who started in the two hundred mile run 52 rode Indianapolis G & J Tires, 37 of whom finished. **Only 11** finished out of the 35 riders who used other tires.

63 Riders started in the 100 mile run—47 of them rode Indianapolis G & J Tires and 39 of these riders finished. **Only 7** riders finished out of the 16 who used other tires.

FIGURE THE PERCENTAGE.

Out of 99 riders who used Indianapolis G & J Tires 76 finished or 77%

Out of the 51 riders who used other makes of Tires 18 finished or 34%

Bailey Tread

Which Tires Would You Rather Have on Your Machine?

G & J TIRE COM

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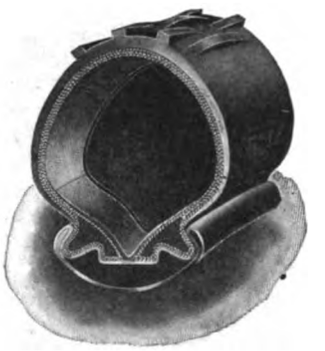
the same inspiring story——

G & J TIRES

Best Showing



Basket Tread

ON THE TRACK

At Los Angeles, Cal., May 16

More World's Records by De Rosier

5	Miles. . .	4	Min.	$\frac{3}{5}$	Sec.	
10	" . . .	8	"	5	"	
15	" . . .	12	"	$41\frac{3}{5}$	"	
20	" . . .	17	"	$2\frac{1}{2}$	"	
25	" . . .	21	"	$38\frac{3}{5}$	"	

Write for a copy of our Motorcycle Book

Raised Tread

NY, Indianapolis, Ind.

Kindly always mention the paper when writing advertisers.

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"HILL CLIMBING" IN KANSAS

This is the way the Hockaday Company, Thor agent, demonstrates the hill-climbing abilities of that machine, the State of Kansas being entirely "on the level."

In creating the recent records from four to twenty-four hours, H. A. Collier found the Jones Speedometer of great assistance to him in keeping his average speed up. The following copy of a letter from Collier's to Markt & Co., the English distributors for Jones Speedometer, has just been received:

"Dear Sirs:

"You will be pleased to hear that the Jones Speedometer fitted to my "Matchless" motorcycle, on which I succeeded in lowering all world's records from 4 to 24 hours, including the 6 hours, covering 775 miles, 1340 yards in the 24 hours, has given me unqualified satisfaction. It has run in all, during training and the actual ride, considerably over 1000 miles at racing speed without the slightest trouble. It is also remarkably accurate, as I have found by timing the machine, that even with the finer graduation on the standard instrument with the standard grading, the error cannot be more than one mile per hour.

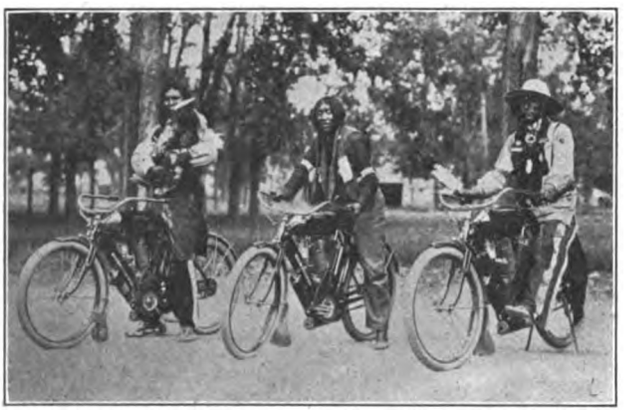
"Yours faithfully,

H. A. COLLIER."

Something entirely worth while in the motorcycle speedometer line has just been put on the market by the Ovington Motor Company. The new speedometer is one of the "discoveries" of which Mr. Ovington obtained control in this country, upon the occasion of his recent trip to Europe. In the United States, in common with other specialties imported by the Ovington Company, the new instrument will be marketed under the trade name, "Ovico."

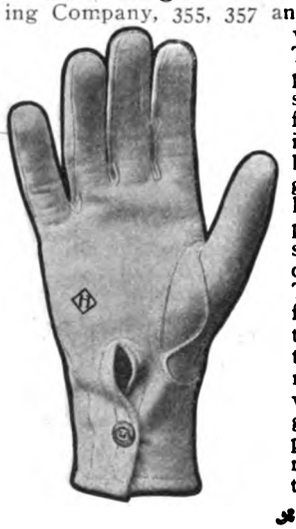
In the "Ovico" speedometer there is a heavy balance wheel, a spring designed to draw the wheel one way, and a propelling device tending to draw it in the opposite direction, while attached to the balance wheel is an indicating hand which sweeps over a graduated scale. As the vehicle to which the instrument is attached goes faster and faster, the rapidity of the impulses which the propelling device gives the balance wheel increases, and in consequence the hand moves over its scale, and indicates, with a perfectly steady and unvarying accuracy, the number of miles per hour the motorcycle is traveling.

The "Ovico" is the most expensive English speedometer, the price in London being five pounds, or practically twenty-five dollars. By a special arrangement with the makers, after explaining that Uncle Sam exacts 45 per cent. duty on such articles, Mr. Ovington obtained a special concession, so that it is possible to put the instrument on the American market, complete and ready for attachment to any motorcycle, at practically the same price as it is sold for abroad, namely twenty-five dollars. The instrument has also an odometer to record the mileage, and the finish and workmanship are of the very best. It is hardly necessary to add that the "Ovico," in common with the highest grade American motorcycle speedometers, drives from the front wheel of the machine, the instrument itself being located upon the handlebar of the motorcycle. Furthermore, by a special worm drive, the instrument can be used on either the right or the left side of the machine. A neatly illustrated booklet describing the "Ovico" may be obtained by addressing the importers, Ovington Motor Company, 2232 Broadway, New York.



Colorado Indians—the Real Thing

This is the glove which the O. C. Hansen Manufacturing Company, 355, 357 and 359 East Water Street, Milwaukee, Wis., sells for $1.25. The gloves a cut of which was published in our May 15th issue, can be had for $1.50. The former, as will be seen from the illustration herewith, is a one-button glove, while the $1.50 glove is a fine gauntlet of horsehide. Either one can be depended upon to give first-class service, and to be worth a good deal more than its selling price. These gloves are not only useful, but they add distinction to the appearance of the rider, and those who have at least some regard for their looks awheel will find these moderate priced gloves well adapted to their purpose. The Hansen Company reports a big demand for both these gloves.



Buffalo.—John W. Henry, president of the Vim Cycle and Hardware Company, has purchased the entire wholesale department of the Iroquois Rubber Company, one of the largest jobbing concerns of its kind in New York State, and a branch of the United States Rubber Company. The purchase of the Iroquois Rubber Company's stock by the Vim Cycle and Hardware Company puts the latter in a much better position to cater to the trade.

A remarkable offer is made in the advertising pages of this issue by the Emil Grossman Company, 232 West 58th street, New York City. This company offers to send to any dealer or rider, without charge, a sample Red Head spark plug. It is needless to say that their half-page announcement of the fact is well worth reading.

The Auto-Bi Company, Buffalo, N. Y., maker of the Greyhound, announces that it is in position to make immediate deliveries. This company has been very busy for a number of months systematizing its factory and while current business is strong it is still meeting demands for stock most satisfactorily.

The Rose Manufacturing Company, 910 Arch Street, Philadelphia, produces, in addition to its well-known Neverout lamp, the Neverout acetylene patent air-cooled generator and mirror lens searchlight.

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The new twelve story and basement building which is now being erected by The B. F. Goodrich Company, at Nos. 1780-1782 Broadway, New York, will offer to the automobile and motorcycle trades advantages which, up to the present time, it has been impossible to obtain in the Grand Circle Section. The height of this building, and its situation between 57th and 58th streets, will make it a conspicuous landmark in the vicinity of Columbus Circle. The building will be of absolutely fireproof construction and will be fully equipped as an up-to-date office and loft building, including steam heat, electric light, passenger and freight elevator service, sprinkler system, etc. It will have a wide entrance on Broadway leading to the stairway and passenger elevators, while a ten-foot entrance on 57th street will be used for shipping, and connect with freight and automobile elevators.

For a fine piece of trade print, artistic in design, condensed, and all-comprehensive, manufacturers and jobbers are referred to the 1909 handbook on "The Operation of Motor Cars and Motorboats," just gotten out by the National Carbon Company, of Cleveland. It is understood that they are operating, or intend to operate, in the motorcycle field. A feature of the book is the manner in which the information given is compiled. There are various headings, such as: Tracing Ignition Troubles, First Aid in Engine Troubles, etc., etc. Under each main caption there are many subdivisions, the whole being very simple and effective.

The motorcycle began its career solely as a pleasure vehicle, but so very capable has the little two-wheeler proved itself that it is being called upon to perform all sorts of useful, practical service. The latest that has come to our attention is its use for hauling freight. Out in Salem, Ore-

gon, Watt Shipp conducts a large sporting goods business. and, besides handling the Indian, he has a large trade in ammunition and explosives generally. This portion of his stock he keeps in a magazine about three miles out of town, and for its transportation he has built a little trailer wagon to be hauled by his twin Indian. The illustration shows the freight train loaded with over 1,100 pounds of dynamite, but Mr. Shipp says he has often hauled much heavier loads.

"Make it a Motorcycle" is the suggestion offered to bicycle riders by the Shaw Manufacturing Company, Galesburg, Kans. This concern, besides selling the Shaw motorcycle at $150, manufactures a complete set of motorcycle attachments for $90 and a 2-h. engine for $60. The motor specifications are as follows: Four cycle, air cooled; 2-h., at 2.000 revolutions per minute; bore, 2½ inches; stroke. 3 inches; weight, 21 pounds; aluminum crank case; height, 15 inches; shaft, ⅜ inch in diameter; bearings, 1 3-16 inches long, bronze bushed; commutator case is aluminum, dustproof; ignition, jump spark; platinum ignition points; automatic compression relief; lubrication, sight feed, automatic. A set of unfinished castings for motor, with blue prints, may be had for $14.

Newark, N. J.—The Adolf Karl Company, importers and dealers of "Permanit," has established an agency in New York under the name "Permanit Company, of New York." W. L. Roder is proprietor and M. J. Stilger manager, and their headquarters are the Thoroughfare Building, 57th street and Broadway.

M. M. SPECIAL AND SIDE CAR

Holyoke, Mass.—B. U. Potter, of 45 Allyn Street, has placed on the market a new automatic self-starting stand. The inventor claims that the rider, when ready to start, simply has to mount his machine, start the engine, place his heel on the lever (without removing foot from pedal), give a light touch and the machine is moved forward off the stand and you ride away—the stand being automatically raised and securely fastened to catch on mud-guard.

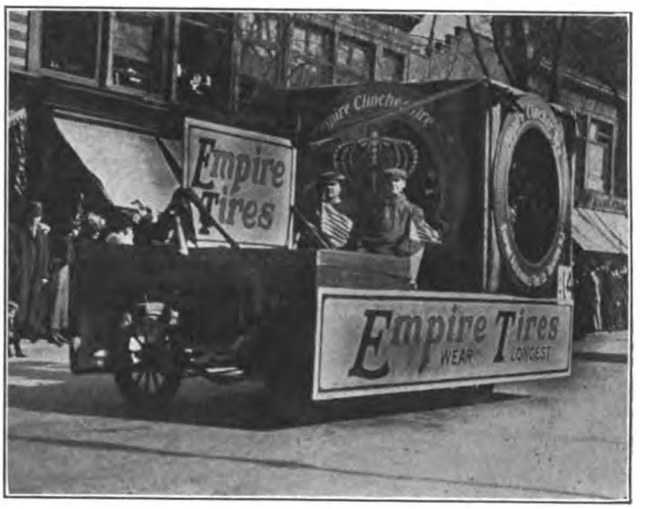
Minneapolis, Minn.—L. M. Buchanan has succeeded to the business of Wiley & Buchanan, A. G. Wiley having retired. Buchanan's address is 520 Second avenue, South.

Chattanooga, Tenn.—The local Indian agency is in charge of Ed. Marler, whose place of business is at 11 East Seventh street.

Wheeling, W. Va.—Dealer Check, of Bellaire, has secured the Pierce agency for this locality.

Louisville, Ky.—The Harley-Davidson agency here has been secured by P. H. Cline & Brother.

This is a photo of the fine float which represented the Empire Tire Company, Trenton, N. J., in the New York carnival parade recently. The Empire Company, which manufactures motorcycle as well as auto tires, is elated over the fact that the two cars equipped with Empire tires made the entire four days' endurance run conducted under the auspices of the Harrisburg Motor Club without the removal of a single case or tube, while the tires were in splendid condition at the finish.



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MOTORCYCLE MART—IT SELLS THE STUFF

Buy; Sell; Exchange. Two Cents a Word. Cash With Copy

FOR SALE OR EXCHANGE

FOR SALE—"Vindec Special," Model F '08, with '09 handlebar control, spark and gas, Bosch magneto, two-speed gear, free twin engine, 2½-in tires with extra unused tubes, belt and large assortment complete valves, pistons, rings, bushings, bolts, nuts and important parts. Used only 700 miles; slightly tarnished; engine just refitted; guaranteed first-class mechanical condition throughout. Worth $400. Will accept first draft $275. Room 586 The Arcade, Cleveland, Ohio.

FOR SALE—'08 Twin Indian, 5-h., in fine condition; new tires, engine sprocket and chain; complete outfit including mirror lense lamp and generator, rough-rider grips, large horn, trip cyclometer, stand, large metal tool box and extra tire. For a quick sale will take $125. A. C. Williams, Meriden, Conn.

FOR SALE—1908 2¾-h. Blue Indian, in good running condition, recently re-enameled, 2½-inch tires, rear brand, new Bailey tread; equipped with Solar lamp, Persons tool bag, tools, extra links, Indian stand, etc. First $85 takes it, or further particulars from W. S. Tripp, Court House, Sioux City, Ia.

FOR SALE—1909 M. M. 7-h. magneto twin motorcycle; M. & W. tires, with 1908 Indian tri-car fitting, optional to buyer; used 200 miles and in fine condition; reasonable for cash. Henry Heyer, 1325 Bedford avenue, Brooklyn, N. Y.

FOR SALE—Ever Ready Speedometer and Odometer, flexible shaft drive, for 28-inch wheels, used 19 miles; $8.00 buys it. Edward Tompkins, 1126 Brown St., Peekskill, N. Y.

FOR SALE—B. & C. two-speed and free engine gear; front tandem attachment; both new; will sacrifice. Carpenter, 1405 E. 82d St., Cleveland, O.

FOR SALE—Indian Twin, 1909 model, loop frame, magneto, Bailey tread tires. Price $225. J. A. Johnston, 639 Liberty street, Pittsburg, Pa.

FOR SALE—For best offer, new 3½-h. N. S. U., Touring Model; spring fork, magneto; run less than five miles. J. A. Richards, Louisville, Ala.

FOR SALE—1909 M. M. Special, 3½-h., battery ignition, fine condition; first check for $150 takes it. Frank Heitz, Ashland, Ohio.

FOR SALE—1908 M. & M. Special, 3½-h., in excellent condition, with extra parts, $130. H. J. Blickensderfer, R. 1 B 4, Shanesville, O.

WANTED—Model 1909 Indian motorcycle; give full description and price to "Rider," Box 1183, Bisbee, Ariz.

AGENTS CARDS, ETC.

FOR SALE—7-h. single cylinder battery ignition; 5-h. twin cylinder, with magneto; rigid side cars, will fit any machine. We will take your old troublesome coil in part payment for our new guaranteed coils; 2 batteries only required. Six Schebler carbureters going cheap. Motorcycle frame fittings; band brakes, foot rests. Send for illustrated price list. The Motorcycle and Accessories Co., 865 S. Kedgie Ave., Chicago.

FOR SALE—New 1909 Breeze Carbureter, with fittings for M. M. New imported English "Autoclipse" lamp and generator. Imported leather coat, size 37; imported speedometer Goodland patent. None of these used even once. Also a tandem attachment for M. M. 28 inch wheel machine. All of these will be sold reasonable. Write John Taggart & Son, White City, Kansas.

WELCOME, Motorcyclists! When in Cincinnati you are one and all invited to make our place your headquarters. You will be heartily welcome. Special room fitted with every convenience for the tourist. Milton Motorcycle Co., dealers in Motorcycles and Accessories, 1003-5-7 Race street, between Canal and Court streets, Cincinnati, Ohio. 'Phone, Canal, 233.

MOTORCYCLES—35 second hand machines on hand, all makes; $40 up. Send stamp for illustrated circular describing them. Tiger Cycle Works Co., 782 Eighth avenue, New York City.

MOTORCYCLES thoroughly overhauled and repaired. Agents for Thor motorcycles, parts and sundries. Brazenor & Ruderman, 849 Bedford avenue, Brooklyn, N. Y.

ACCESSORIES at prices that will surprise you; send for our large catalogue. Motorcycle Equipment Co., Hammondsport, N. Y.

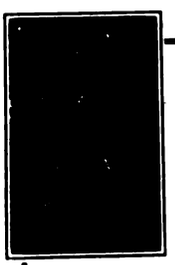
M-M AND R-S MOTORCYCLES—East End Cycle Co., Highland & Beitler, near Centre Ave., Pittsburg, Pa.

EXHAUST WHISTLES and hand idlers for M. M. motorcycles. French, 895 Main St., Buffalo, N. Y.

FOR SALE—Motorcycle business in a good western city; good territory. Address X, care Motorcycle, Ill.

RICHMOND, Ind.—Reorganization of the local club was recently effected. The new officers are: President. Elmer Smith; vice-president, William Waking; secretary, Herbert Scharff; treasurer, Charles Tangeman; captain. George M. Dunkle; lieutenant, Harry Minor.

BROCKTON, Mass.—Twenty-five riders of this city and surrounding towns have organized the Magee Motorcycle Club, and quarters have been taken in the City Theater Building. David Marsh is president of the organization, Arthur Watkins vice-president and Frank Libby treasurer.



B. & C.

Two Speed and Free Engine Gear

Easily attached to any chain-driven motorcycle of the countershaft type. Puts your mount in the up-to-date class without remodeling. Fifty per cent. reduction from the normal speed, or free engine, at the will of rider.

One lever only. Starts from slow speed without jolt or jar. The ideal equipment for a tricar. Write for particulars. You will be interested, pleasantly surprised. So write to-day.

BUSHNELL & CANNON, 1268 E. 80th Pl., Cleveland, O.

PFANSTIEHL COILS

Guaranteed Absolutely for FIVE YEARS

Standard Equipment with:

Thor	New Era Mfg. Co.	Brown & Beck (Apache)
Consolidated Mfg. Co.	Torpedo	Reading Standard
Merkel-Light	Armac	Buda Foundry
Thiem	Fowler	Harley-Davidson

May we tell you why Pfanstiehl Coils enjoy this patronage? Write for particulars.

Pfanstiehl Electrical Laboratory, No. Chicago, Ill.

Kindly always mention the paper when writing advertisers.

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WITH THE CLUBS

The Indian Baseball Club

NEWARK, N. J.—The June runs of the New Jersey Motorcycle Club will be as follows:

June 6, to lower end of Greenwood Lake via Montclair, Singac, Pompton, Newfoundland, eighty-five miles; start 9 A. M.

June 13, to Lake Hopatcong (Woodport), via Montclair, Pine Brook, Dover, Berkshire Valley to Woodport, seventy miles; start 9 A. M.

June 20, to Newburg via Montclair, Pompton, Suffern, Central Valley to Newburg, 130 miles; start 7:30 A. M.

June 27, to Midland Beach (Staten Island), via Elizabeth, Rahway, Perth Amboy (ferry), to Tottenville to Midland Beach (ocean plunge). Return to ferry opposite Elizabethport, to Elizabeth, to Newark, fifty-five miles; start 9 A. M.

THE NEW YORK Motorcycle Club held an invitation run to Bridgeport May 16, about 50 riders starting from New York, and a large proportion of the caravan reached Bridgeport, a distance of 62 miles, in reasonable time. On arrival the visitors were met by a considerable number of the local motorcyclists, a squad of the Excelsior riders, augmented by others, going out to Portchester to meet the New Yorkers. The metropolitan residents drove about Bridgeport and vicinity and after a pleasant visit and excellent entertainment returned. The occasion was interesting for the riders and did considerable to promote further exchange of courtesies.

BALTIMORE, Md.—W. S. Fisher, the veteran captain of the local club, writes that the "insurgent" movement in that organization is at an end. A peaceable compromise, satisfactory to all parties, has been reached. The club is again united, thanks to the peace-making abilities of President French and others. An endurance run, to be held some time in June, is now being planned.

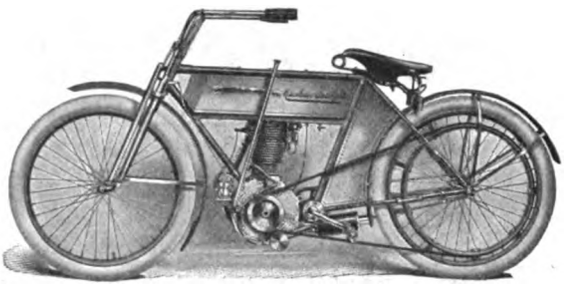
SAN FRANCISCO, Cal.—The local club is growing rapidly. Its membership now numbers nearly one hundred. Comfortable quarters at 40 Haight Street are open every Thursday evening and visitors are cordially welcomed. The club is also flourishing financially, having mazuma in the strong-box and no figures on the d. side

?

Do you remember that little inquiry with regard to an electric light? We have had no less than twenty letters inquiring where such a light could be purchased. We thought you might be interested in knowing this to be the case, as it emphasizes how carefully MOTORCYCLE ILLUSTRATED is read.

May 20th. OVINGTON MOTOR CO.

EXCELSIOR
Auto-Cycle



Road Machine Par Excellence

TRIED AND FOUND NOT WANTING, THE EXCELSIOR IS RAPIDLY OUTDISTANCING COMPETITORS.

EFFICIENT
RELIABLE
EASY RIDING

Made well, the Excelsior always Makes Good—A Classy Machine—The Machine You Should Have

Excelsior Supply Co.
ESTABLISHED 1876
233-237 Randolph St., CHICAGO, ILL.

HOW IS BUSINESS?

Secure the Agency for the EXCELSIOR AUTO-CYCLE—THE MACHINE That The Public Is Demanding. SATISFACTION GUARANTEED.

STANLEY T. KELLOGG
Eastern Distributor 2233 Broadway

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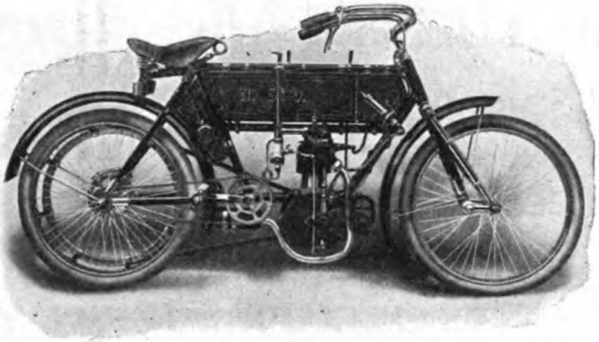
NSU

A MOTORCYCLE

Not built to sell alone, but built to last and give entire satisfaction for years.



3½ H. P. SINGLE CYL. STANDARD TOURING MODEL

THE N. S. U. Motorcycles are absolutely the best value for the money ever offered to the American public. Perfect reliability of each and every part, giving as a whole the most perfect motorcycle on the market today. They will go anywhere at any time, *smoothly*, *swiftly*, *safely*, and withstand the pounding of long, continuous riding over rough roads better than any motorcycle made.

WORLD'S RECORDS

1 Mile 46 4/5 Seconds

Made by an amateur, but the best of professionals can't equal it.

5 Miles		**3 Min.**		**59 1/5 Sec.**	
6	"	**4**	"	**47**	"
8	"	**6**	"	**28**	"
10	"	**8**	"	**08 4/5**	"

HIGHEST AVERAGE

3 Gold Medals—F. A. M. Endurance Contest

Why bother with the cheap worry-giving motorcycles that drain your pocketbook?

IMMEDIATE DELIVERIES

Catalogue "M" Awaits Your Request

N.S.U. Motor Company

206 West 76th Street, New York City

LONE STAR STATE EXCELSIOR RIDER

One of the most enthusiastic riders of the Excelsior is Claude Caldwell, of Waco, Tex. Mr. Caldwell, who is connected with the Powers-Kelley Drug Company, uses his autocycle daily in the delivery of packages in that country, where residences are far apart.

He has averaged one hundred miles per day for the last three months and states that he has covered this mileage at an average gasoline consumption of one gallon per day, and without repair or adjustment of any sort.

In covering his daily runs, a considerable part of the distance is directly across country "as the crow flies," as owing to the nature of the ground and scarcity of roads other than mere trails, he can travel practically as rapidly and satisfactorily straight across country as on the alleged highways.

W. R. Butler, who has ridden a motorcycle around and about New York for the past six years, has opened a store on Jerome avenue, No. 2059, just at Burnside avenue, which would be at 179th street. He has ample quarters and will store and repair wheels and handle a line of sundries, etc. This is one of the great highways for motorcycles out of New York City. Mr. Butler should do very well in his new enterprise.

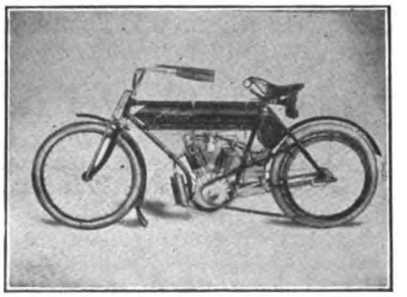
Kansas City, Mo.—The Architects and Engineers Supply Company, 1010 Grand avenue, has just taken on agencies for the American, Marsh Metz, Greyhound, Curtiss and the F. N. one and four cylinder machines.

Johnstown, Pa.—Charles O. Johnson, of 114 Haynes street, South Side, has secured the agency for the Thor in this city.

The Harley-Davidson Motorcycle Company has established an agency in Honolulu, Hawaii.

Anderson, Ind.—The Remy Electric Company is preparing to add to its outfit a magneto for motorcycles.

RELIANCE TWIN, 4-5 H. P. $225



Send Stamp for Catalog

Tiger Cycle Works Co., 782 8TH AVE., NEW YORK
DISTRIBUTORS FOR NEW YORK AND L.I.

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Thor

31 Miles in 99½ Minutes
OVER COUNTRY ROADS

In Road Race held at Indianapolis, on May 31st, John Link won in this Marvellous Time. He was mounted on a Twin

Thor

The Motorcycle Supreme

We Are Convincing the Doubters

There Are Still Many Trailers
Don't be a Trailer; Ride a Thor

Aurora Automatic Machinery Co.
Thor Building, Chicago

Thor Thor

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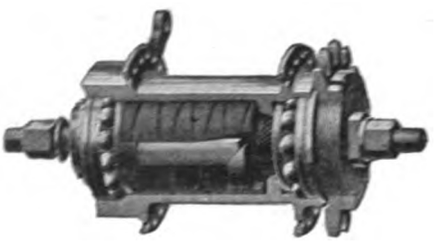
Puts All Others In the Shade

THE brake for novice or expert—for everybody.

The Eclipse 1909

Only Eight Parts, none of which is easily broken or put out of adjustment.



The FIRST Coaster Brake designed for motorcycle use.

Coaster Brake

The 1909 model has the largest braking surface ever used.

SIMPLE, STRONG, EFFICIENT

These qualities are most in demand in a Coaster Brake. Where any one is lacking, perfect service is impossible. We have been manufacturing Coaster Brakes for many years. You get the benefit of our experience. Write to us for particulars.

ECLIPSE MACHINE COMPANY, Elmira, New York

Licensed Coaster Brake Manufacturers

Red Head TRADE MARK SPARK PLUG

THE SPARK PLUG SENSATION OF THE YEAR

¶ No motorcycle owner or dealer can afford to ignore it. It is a moner-saver for the user, and a money-maker for the dealer.

¶ If you have not received a free sample, write to us on your letter head and we will send you an order good on any dealer for one Red Head Spark Plug, absolutely without cost to you.

EMIL GROSSMAN COMPANY

MANUFACTURER

232 WEST 58th STREET - - NEW YORK

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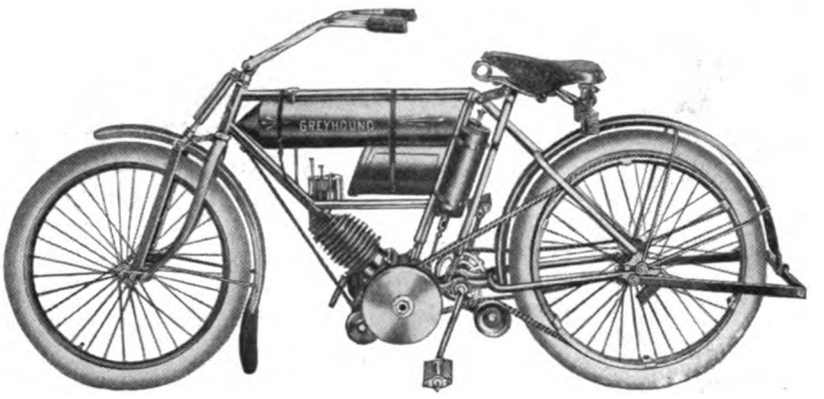
Greyhounds Ready

Got an early start last fall. Commenced shipping 1909 Greyhounds in December. Factory humming ever since. Result, more business and better service than ever before. Rate of production still improving and immediate delivery guaranteed. NOW is the word al over the shop.



Greyhounds are great motorcycles. Greyhound shock absorber kills the bumps. Fine motor. One-piece forged steel crankshaft. Split crank case. High grade construction and equipment. Satisfaction and comfort for the rider. Good business for the dealer. ***Catalog free, write us.***

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Sales Agents Metropolitan District, THE BROWN-DEWEY COMPANY, 1697 Broadway, New York.
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POINTS OF EXCELLENCE

Built Throughout for Motorcycle Use.

½ inch Axle. Larger Bearings, giving longer life.

The Inside Diameter of the Brake Drum is 3 Inches, with Brake Shoes ½ inch wide, giving double the Braking Surface of Any Other Model.

Corbin Motorcycle Coaster Brake
Model 9

Simple, Strong and Positive

CORBIN SCREW CORPORATION
New Britain, Conn.

Model 9 is 5⅜ in. long outside of cones $1^{15}/_{16}$ chain line.

Model 9A is 6⅜ in. long outside of cones 2¼ chain line.

Made for either Belt or Chain Drive Motorcycles.

Heavy Front Hub to match.

Licensed Coaster Brake Manufacturers

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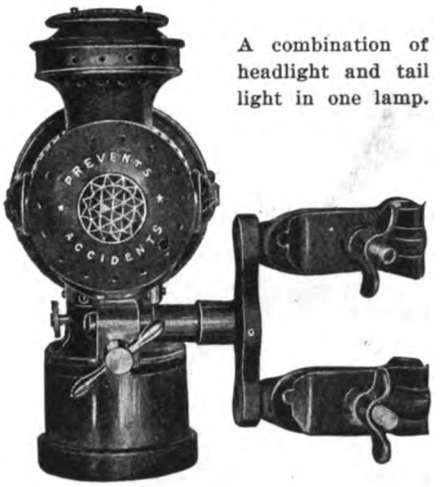
The Neverout Motorcycle Oil Lamp

TRADE MARK

Showing a Red Rear Light



A combination of headlight and tail light in one lamp.

The Neverout Motorcycle Lamp, with combination tail light, showing rear view. (Patented)

The Neverout burns kerosene oil 10 hours with one filling and will stay lighted under any and all conditions.

All riveted—will not rattle apart over the roughest roads.

Sold on ten days' trial. Price $3.00 complete.

The Neverout is equipped with a patent glass-covered reflector, made of pure German silver; never loses its original brilliancy; instantly removable. Guaranteed to stay lighted or money refunded.

Made in gun metal, brass and nickel finish.

The only perfect and reliable motorcycle lamp made.

If your dealer cannot supply you, write us direct.

Dealers: Write at once for our proposition.

Rose Manufacturing Co.

933 ARCH STREET PHILADELPHIA, PA.

WE MANUFACTURE THE CELEBRATED NEVEROUT ACETYLENE PATENT AIR COOLED GENERATOR AND MIRROR LENS SEARCHLIGHT FOR MOTORCYCLES

THE TIRE TROUBLE BUG-BEAR

Won't "Bite" The Rider Whose Machine is Fitted With

The Kokomo Gridiron Tread

Long past the experimental stage, this tire is all but indestructible. If you want the best, Kokomo will be your choice.

The rubber absolutely sticks to the cloth, which is specially made of closely-woven Sea Island fabric.

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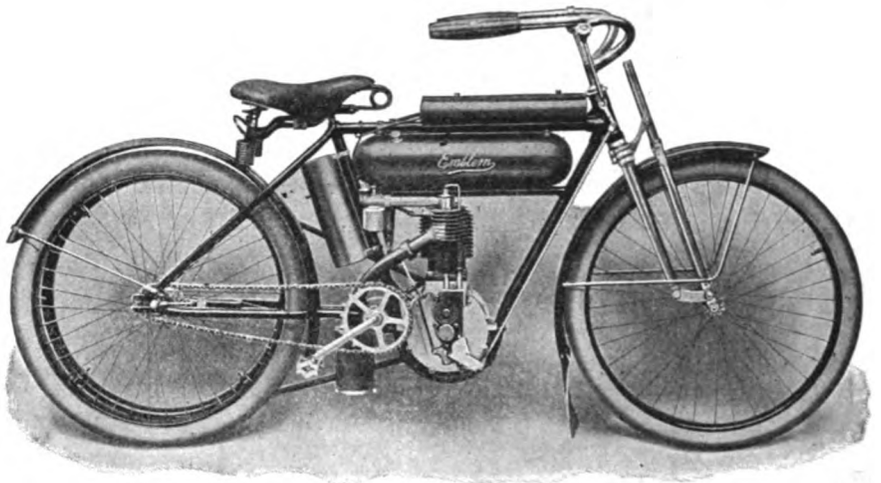

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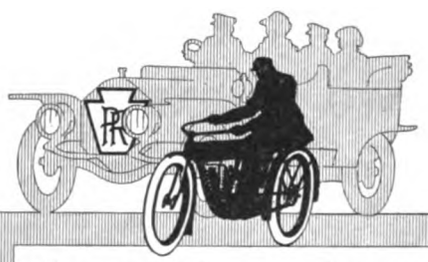

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The wear and tear on tires resulting from the powerful propulsion of gasolene engines is as severe under the motorcycle as under the automobile. The latest and foremost tire affording automobile wearing capacity for motorcycle service is the

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NEW FLAT TREAD TYPE
MOTORCYCLE TIRE

If you are using the ordinary light tires, better fitted to stand the strain of foot pedaling on bicycles than the mauling and friction of motor driven travel, you will find it not only an economy but a safeguard to adopt this new and heavier tire—undoubtedly the strongest and most durable motorcycle tire yet made. ¶ It will pay you to write for descriptive booklet, price list and names of dealers near you.

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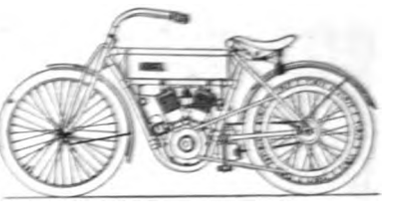
Merkel-Light 1909



¶ The Intending Purchaser who desires full value for his money will find more useful and exclusive features on the MERKEL-LIGHT Line than can be obtained on any other, and will receive not full value only, but extraordinary value for the price asked.

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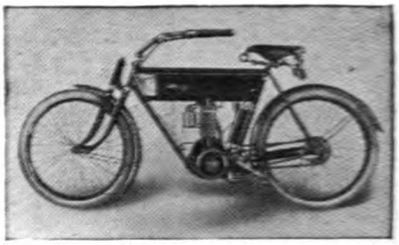
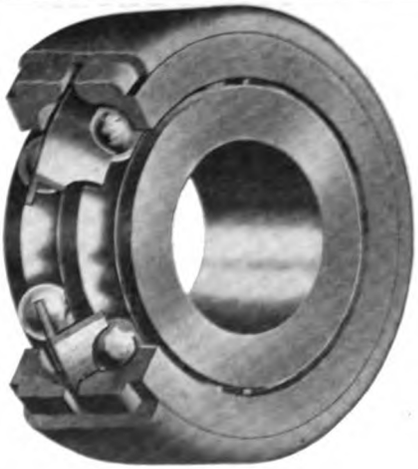
Pottstown, Pa.





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have speed all right, but speed isn't the first consideration in their construction. They are built for honest service and are noted for their simplicity, power, perfect construction, positive control and easy riding qualities.

You can ride as slow as you want, or you can travel one mile in sixty seconds with the

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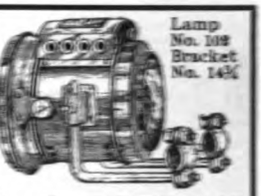
Send for Complete List, Lamp Bracket Attachments, each and all Motorcycles



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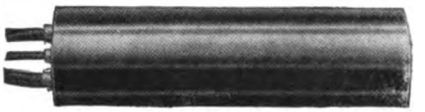
Don't bother with an unsatisfactory ignition system. You cannot make it into a good one. Equip your motorcycle with a Pittsfield System.

MOTORCYCLE MAGNETO SPARK PLUG

Mica insulated. Two separate spark gaps shooting high tension sparks straight out into the mixture. Special electrodes.



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The user is protected against Shocks and Jars.

The corrugations absolutely prevent the hand slipping.

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Length of Grip 8 inches
Standard size fits 1 inch handle bar
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Speed
Power
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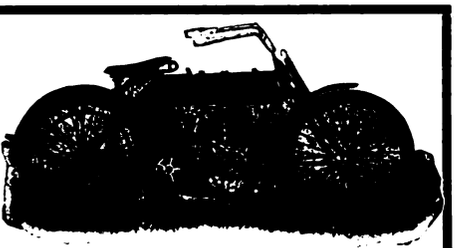

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HERZ-MAGNETO
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Good Bye Ignition Troubles Forever

ABSOLUTELY SELF-CLEANING

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THE BOSCH MAGNETO

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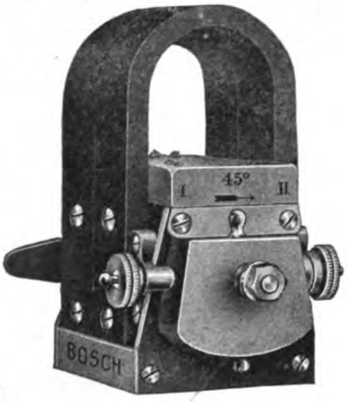

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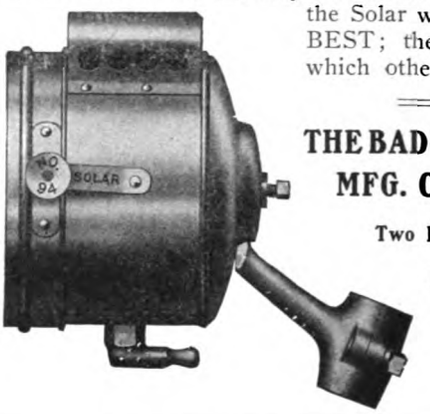

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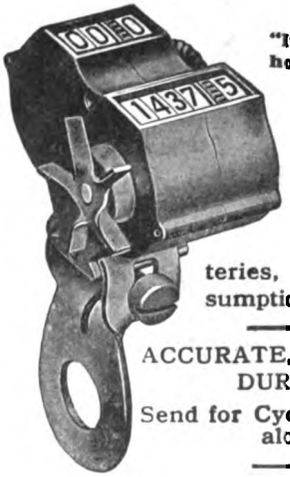
FOR MOTORCYCLES



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It also tells just what you ought to know regarding tires, batteries, gasoline consumption, etc.

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are a most important necessity in your motor. Then why not buy a plug that has a reputation and is as simple as the RELIANCE?

Especially good features are found in RELIANCE PLUGS that make them differ from the ordinary. "THEY SPARK IN WATER."

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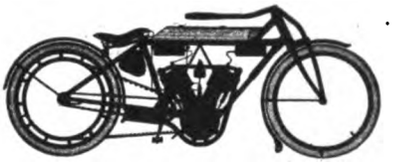

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WHY Roller Bearings are better than bronze.
WHY the Curtiss "V" Belt Transmission, with 6 years of experience behind it is the best in the world.
WHY the Curtiss Frame and Fork Construction has proven superior to all other types.
WHY all Curtiss engines develop more power and speed for the same cubic capacity than any other engines in the world.
WHY we won the only Diamond Medal in the 1907 F. A. M. Endurance Run and Highest Awards in both classes of the 1908 F. A. M. Endurance Run.
WHY we hold the World's official 1 and 10 mile records.

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M & M Repair Kit

M & M Cycle Kit is packed in a tin screw top box containing a special prepared cement, an assortment of patches, cement brush, emery cloth, etc.

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Outfit Complete, 50c.

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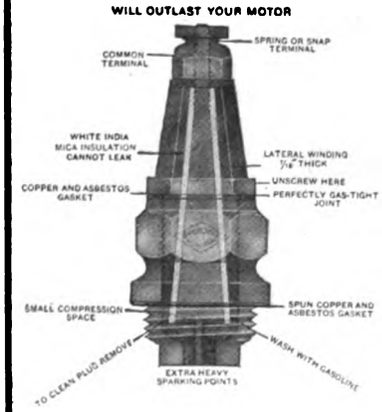
For Motorcycles Only



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are the ripest fruit of Remington experience, the highest achievement of Remington skill and the perfect evidence of Remington leadership.

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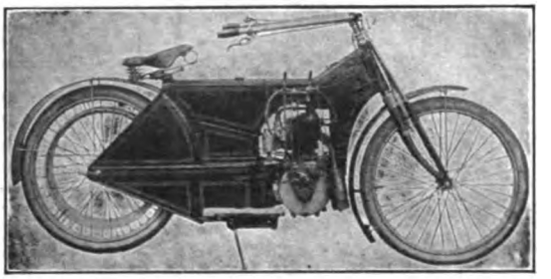

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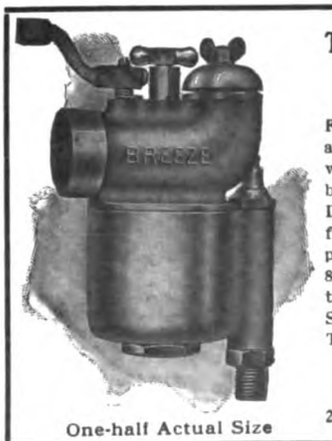

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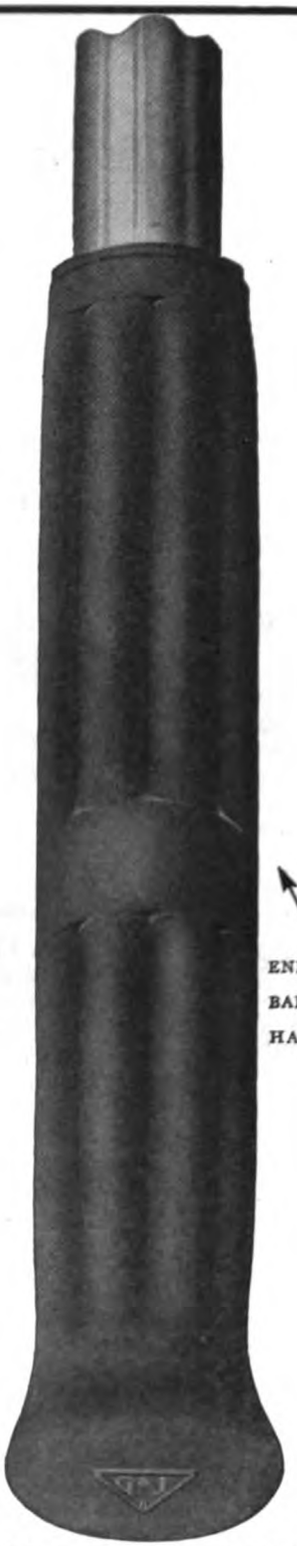

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MOTORCYCLE ILLUSTRATED

Vol. IV. No. 12 June 15, 1909

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KELLOGG WINS AT POINT BREEZE

He Defeats Chapple in a Great Twenty-five Mile Race.—Philadelphia Agents Conduct a Wonderfully Successful Meet.

PHILADELPHIA—Racing around the Point Breeze track with a disregard for turns that brought the crowd of onlookers to their feet in recognition of his daring riding, Stanley Kellogg, on a Merkel machine, Saturday afternoon, won the 25 mile race of the Philadelphia Motor Cycle Trade Association meet.

Louis Steinhauser, on a 3½-h. Bradley, came in second, while third place honors fell to the entry of the Reading-Standard Company, with a 7-h. power motor, and driven by Harry Klebes. The time for the twenty-five miles was 26 minutes and 15 2-5 seconds, the fastest ever made on this track.

A new record for the track was created in a five mile event for the Philadelphia Motor Trade championship. Kellogg, who won the two races in which he was entered, made the distance in 5 minutes and 33 4-5 seconds.

A. G. Chapple and Kellogg twice circled the track in vain endeavors to break the Point Breeze record of 1 minute and 4-5 seconds. Kellogg created this mark last summer. In his attempts, Chapple's time was 1.02 1-5. He used a 4-h. Indian. Kellogg made two efforts, the best being done in 1.01 1-5.

Interest centered upon the twenty-five mile event. Keyed up by the sensational five and ten mile dashes, the crowd became wildly enthusiastic as the nine cycles left the line in a bunch and then entered into as hot a contest as has ever been seen here.

Only in one lap was Kellogg running second. This was in the first circle about the track and Chapple crossed the tape about twenty feet ahead of him.

Kellogg, however, gradually drew ahead. The two machines— Kellogg on the Merkel and Chapple on the Indian— until the latter was disabled in the twenty-third lap, raced without scarcely a hundred feet separating them.

Steinhauser had already won two races, and he had posted a large side wager that he would either win the twenty-five mile event or finish second. Klebes, who is an amateur, and was making one of his first appearances, was equally determined to finish either first or second. Steinhauser captured second.

Near the finish a crowd of men and boys swarmed on the track. Kellogg's motorcycle had just entered the stretch. The crowd apparently was in ignorance of the approaching machine. They were driven back by policemen just in time to prevent a collision.

In the five mile championship, single-cylinder race, there was a close finish between Chapple, riding an Indian, and Klebes, who rode a Reading-Standard. The latter lost by only a few lengths and for a lap acted as the pacemaker. Chapple had a puncture in the five mile double, and a broken chain in the ten mile single.

Prizes in the various events ranged from a stop-watch to a gold watch. In the 25 mile event Kellogg won a gold watch, while the men who finished second and third received a gold watch fob and a pair of gold cuff links, respectively. Diamond and opal scarf pins were the prizes in the ten mile open race.

The summaries follow:

Three mile novice, 30½ cubic inches displacement—Won by B. Darling, of Philadelphia, 3½-h. Bradley; second, W. E. Collins, of Philadelphia, 3½-h. Yale. Time, 4m., 35 sec.

Five mile P. M. C. championship; single-cylinder—Won by A. G. Chapple, of New York, 4-h. Indian; second, Harry Klebes, Philadelphia, 4-h. Reading-Standard; third, E. T. Banes, of Philadelphia, 4-h. Merkel. Time, 6 m., 4 sec.

Five mile, P. M. C. championship, double-cylinders—Won by Stanley Kellogg, of Bridgeport, Conn., 7-h. Merkel; second, Fred Voelker, of New York, 6-h. N. S. U.; third, H. P. Shay, of New York, 6-h. N. S. U. Time, 5m., 33 4-5 sec. Record for Point Breeze track created in this event.

Five mile event for private owners, single-cylinders; 30½ cubic inches displacement—Won by L. Steinhauser, of Philadelphia, 3½-h. Bradley; second, F. M. Yewdell, of Philadelphia, 3½-h. Bradley; third, J. Rosa, of Philadelphia, 4-h. Reading-Standard. E. T. Banes and A. Jesser, of Philadelphia, also rode. Time, 6m., 11 4-5 sec.

Ten mile open, 30½ cubic inches displacement—Won by L. Steinhauser, of Philadelphia, 3½-h. Bradley; E. T. Banes, of Philadelphia, 3½-h. Merkel; second. Time, 11 m., 18 sec.

Twenty-five mile, open—Won by Stanley Kellogg, of Bridgeport, Conn., 7-h. Merkel; second, L. Steinhauser, of Philadelphia, 3½-h. Bradley; third, Harry Klebes of Philadelphia, 7-h. Reading-Standard. Time, 26m., 15 2-5 sec. Five miles, 5.25; ten miles 10.37 1-2; fifteen miles, 49; twenty miles, 21.02.

The officials were as follows: Starter, Frank Shaw; reteree, C. V. Stahl; judges, S. W. Robb, W. H. Johnson and J. S. Keating; timers, A. E. Ireland W. R. Stroud and William Van Saun; clerk of course, L. J. Springler; assistant, C. Fichler; announcer, William Young, and chairman of the Racing Committee, William C. Rhodes.

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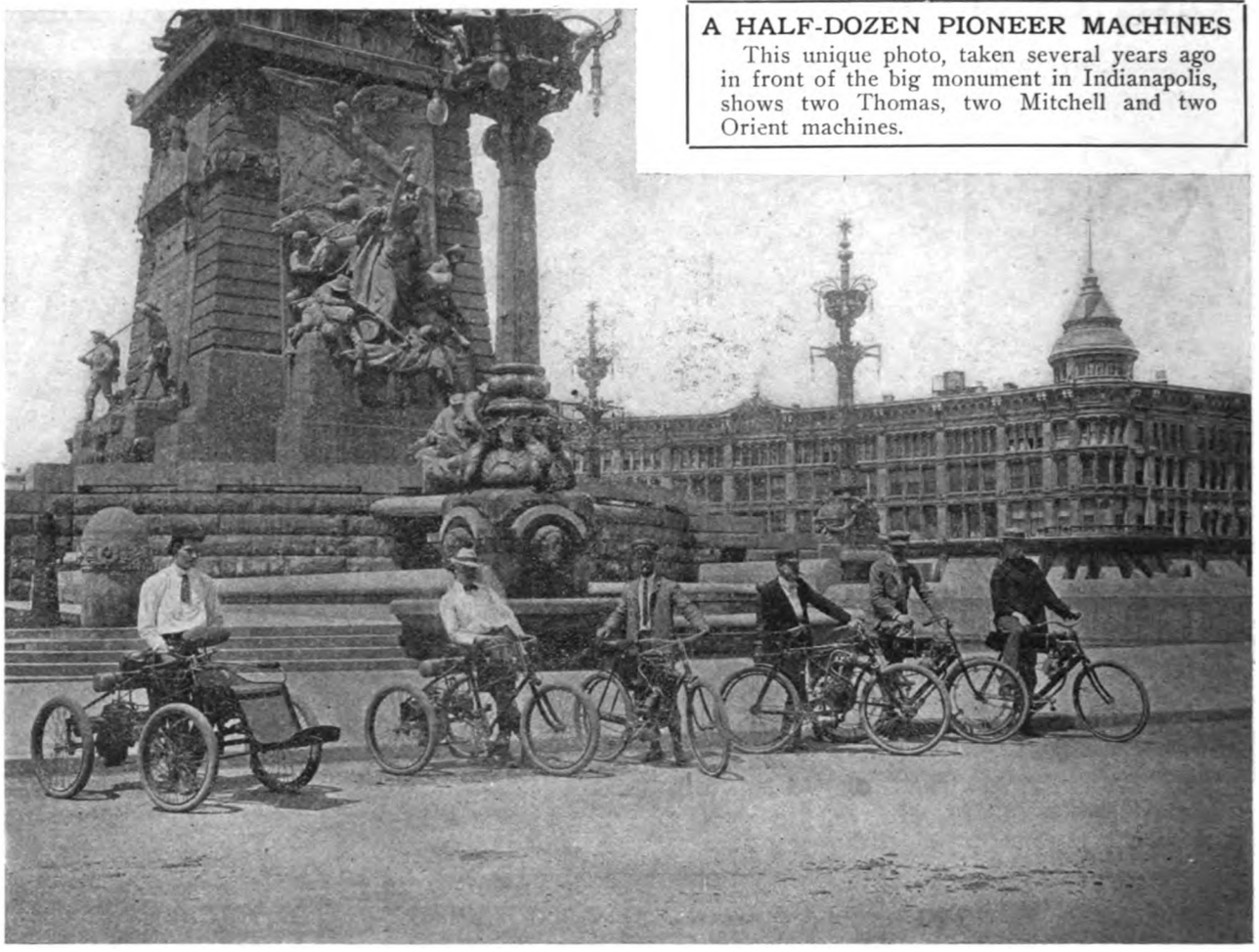

A HALF-DOZEN PIONEER MACHINES

This unique photo, taken several years ago in front of the big monument in Indianapolis, shows two Thomas, two Mitchell and two Orient machines.

HONORS DIVIDED AT COURTLAND BEACH

A SERIES of six races was recently held at Courtland Beach, Omaha. The first, for 2¼ and 2½-h. machines, was won by Ralph Littlefield, on a Reading-Standard. The second, five mile open, for belt driven machines, was won by Ralph Bates (Excelsior), Bell, on a Harley-Davidson, being a close second. The third, five mile open, for chain driven machines, was won by Dewey, on an Indian, Mickel, on a Thor, taking second prize. The fourth, five mile open, was won by Bell (Harley-Davidson), Malmquist, on a Merkel, being second. The fifth, five miles for twin-cylinder machines, was won by Bates, on a Thor, as was also the ten mile open, in which the Thor also captured the second prize.

THE Mid-Summer Century of the Eastern Division of the Century Road Club Association will be held on Sunday, July 18th. The course will be on Long Island, straight to Sayville, and return to Jamaica. The motorcycle section will leave Bedford Rest at 8:30 a. m. Entry blanks may be had from H. A. Cassner, 152 Church street; F. A. Baker & Co., 37 Warren street; H. Popper & Son, 102 Fulton street; J. C. Foley, 162d street & Jerome avenue; H. Brower, 115 Greenwich street; H. A. Gleisman, 782 8th avenue; Brooklyn Club House, 1056 Bedford avenue, Brooklyn, and the New York Club Rooms, 176 E. 106th street.

From present indications, it is certain that the motorcycle section will contain several score competitors. The course is one of the most attractive in the United States.

CHICAGO-INDIANAPOLIS AUTO ROAD

INDIANAPOLIS.—An automobile road is to be built between Indianapolis and Chicago, the work to start this summer and to cost approximately $2,000,000. This announcement has been made by Charles S. Hernley, of Newcastle, speaking for a company being organized, and which will include Benjamin Briscoe, of Tarrytown, N. Y., and Carl G. Fisher, of this city.

PROVIDENCE.—Local motorcyclists will have their annual picture run on Sunday, June 20th. All riders are invited to attend. The picture will be taken in Roger Williams Park about ten o'clock. After that, there will be a run to Palace Garden and Rocky Point.

CHICAGO.—Riding an M.-M., Harry Van Wart recently started from Chicago on a Monday morning, lunched at South Bend, Ind., ate supper in Toledo, and reached Akron, O., nearly 400 miles distant, before noon the following day.

JOSEPH C. SMITH, of the Hobart M. Cable Piano Company, and James Sterne, of the Knickerbocker Ice Co., on their Harley-Davidson motorcycles, touring near Crown Point, Indiana (at Cedar Lake).

SACRAMENTO, Cal.—W. E. Collins, riding an Indian, was victor in every one of a series of races recently held in this city.

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THE A B C OF MOTORCYCLING

The Last of this Series—A Few Valuable Hints, and Several "Don'ts"

By ROLLAND C. LAURIE

NOT long ago, I had a man write to me: "I am advised not to touch a machine fitted with a magneto, as my friends tell me they are no good." Here we have the result of a little knowledge. Any rider of experience knows that a magneto is, by far, the most reliable form of ignition. The racing automobile builder seeks reliability above all things, and invariably do we find the magneto used in his construction, simply because it is undoubtedly the best form of ignition obtainable.

In my former chapter I spoke of caring for the bicycle parts of the machine—don't forget them; oil and adjust the bearings, and see that there is no "shake" in the head of the machine. Do not forget the coaster brake. If it ever "gives out," have it to pieces and look for the fault. Most probably it will be due to a broken spring in the brake shoe; a new one can be easily fitted, care being taken to get the pawls in opposite directions so that they operate each shoe. If the brake shoes are worn, put a thin strip of a broken hack-saw between the pawl and the shoe to take up the slack; this will be found as good as a new shoe.

Keep the pulley or driving sprocket tight upon the driving shaft, for if it gets loose it causes damage. Keep the belt in good condition and clean it occasionally; if it is of leather dress it now and then with collan or linseed oil. If the machine is chain-driven, take off the chains occasionally, soak them in kerosene and afterwards "boil" them in melted paraffin wax. After this treatment the chain will run "like silk" as the wax finds its way into all the crevices and thoroughly lubricates all the moving parts.

Don't stop suddenly, if you can possibly avoid it, as this puts a great strain on all the moving parts. Again, when riding, do not accelerate the engine too quickly, as this produces knocking, and rapidly wears the bushings of the connecting rod. A common occurrence with a novice is trying to start without the gasoline tap turned on or, when the tank is empty, a new man will frequently overhaul the whole machine, forgetting the essential gasoline. Again, a novice, when using a battery ignition machine, is apt to forget to put the switch plug in place before starting, and to omit to take the switch plug out when stopping—a frequent cause of run down and exhausted batteries. These little details are very easy to forget in the earlier stages of one's experience. Be careful to fill the tanks properly; do not put gasoline in the oil tank, or vice-versa, and keep the filters clean and free from dust so as to avoid any possibility of an air lock in the piping. Do not "punch" the plunger on the carbureter too lustily, as it may eventually result in a punctured carbureter float; press the button down gently, as that is quite sufficient.

Do not take anybody's advice unless you know that the advisor is an expert and a practical motorcycle rider. I once heard the proprietor of a garage tell a rider to fill his crank-case with motor grease. It is better when filling the gasoline tank to take care not to fill it brim full, first, because the best of vents will splash over when riding on a really rough road surface, and, secondly, because it is best to leave a small air-space above the level of the gasoline.

Fill up the cuts in your tires, for if water reaches the fabric, rot will set in. Clean the spark plug from time to time, but do not disturb the adjustment of the points, if they appear to be set correctly. Most break downs can be traced to electrical troubles, particularly in a battery ignition machine, so overhaul, as previously specified, all electrical parts before trying to locate the trouble elsewhere. In a magneto ignition motorcycle the most vulnerable part is the spark plug, which may soot up or get disturbed in its adjustment; in a battery model, the contacts are often the cause of a break down, or the batteries may be run down.

Again I wish to thoroughly impress upon the novice the need of proper lubrication. Use the best air cooled oil obtainable and when an engine is new use plenty of it. If the lubrication fails or you run out of oil, walk rather than risk a seized engine. If an engine ever does seize, by accident or neglect, give the cylinder time to cool off thoroughly, dismount the cylinder and lubricate the piston and wrist pin by hand—look to see if the cylinder or piston is "scoured;" if so, the piston or cylinder will have to be reground before you can reasonably expect to get perfect service again.

Always take a full kit of tools and spare parts, as previously specified. Drive with the spark advance lever, and be wise in the use of the throttle. "Make haste slowly," for there is ever a zealous cop "under the spreading chestnut tree," so to speak. If the engine on a belt driven machine starts to race, tighten the belt, or in the case of a chain drive, adjust the friction clutch.

When there are symptoms of premature ignition it is always best to detach the cylinder head and look for a sooty carbon deposit on the top of the cylinder. This can be easily removed with a small scrubbing brush and gasoline, and any scale can be chipped off with a blunt knife; the cylinder head may be treated in the same manner. Overheating may be caused by under-lubrication, driving with retarded spark on too rich a mixture, or by an ill-adjusted carbureter; always adjust the air intake so as to give the best results.

A friend of mine once noticed that for a hill climbing competition, I fitted a larger jet to a certain carbureter which I was using, as this gave surprising hill climbing results. Thereupon he fitted a large jet for ordinary riding purposes and, not knowing that I had changed back to the smaller jet after the climb, used this for three weeks and suffered from chronic overheating and burnt-up valves.

When a valve "sticks," sometimes the guide requires a small application of graphite, a lubricant which will not burn; or sometimes it may be traced to a minute particle of carbon which has lodged under the valve seating; this can easily be removed with a screw driver or any similar tool. Regarding the testing of batteries with an ammeter, do not leave the testing terminals too long on the battery posts, as this serves to quickly run down your batteries. Get a "full reading," as run-down batteries are an "uncertain quantity."

Flush out your crank-case occasionally, as dirty oil clogs the bearings. To do this, take out the spark plug, pour in about half a cup-full of kerosene, pedal the engine around for about half a minute, and then drain out the kerosene and old oil from the crank-case, by the drain tap at the base. Repeat this operation with half the quantity of gasoline and then close the drain tap and leave the engine for a few minutes so that the gasoline may have a chance to evaporate. Then give a full dose of lubricating oil, to replace the oil drained out, and start her up.

My learned coadjutor, ye Editor, to wit, demurely bids me to "switch off," as our mighty building in Broadway is groaning under the excessive weight of my manuscript. So, brother, "au revoir," and I drink to our next merry meeting at a club run, when you will be a full fledged member of the flying squadron and a scorer of perfect marks in reliability trials.

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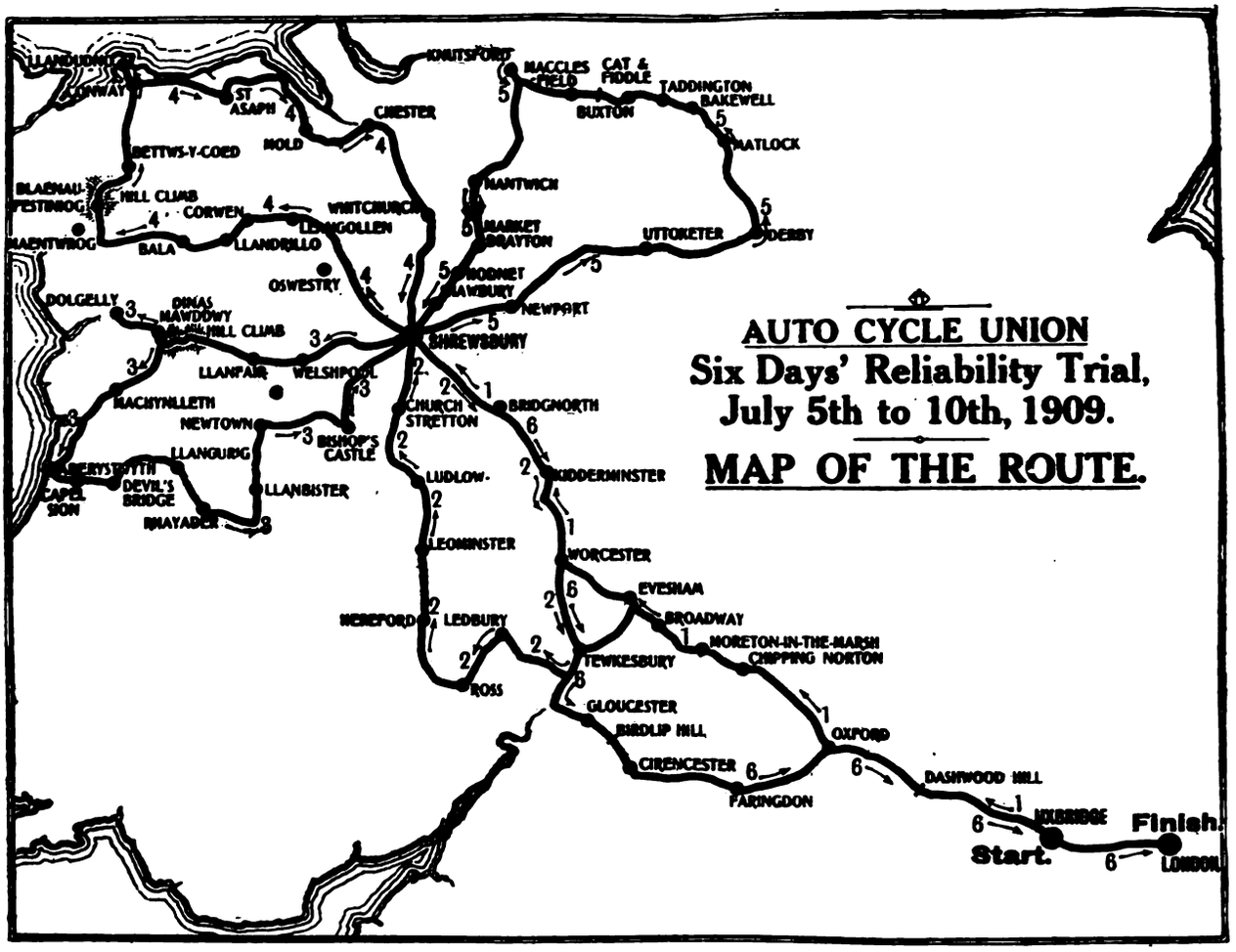

FRESH FROM THE OTHER SIDE

Magneto Position—The Scott, and Its Two-Cycle Water-Cooled, Valveless Engine, Described in Detail—A Racing Records Suggestion from England

By B. H. DAVIS

I NOTICE that on both sides of the Atlantic motorcyclists are rather cockahoop about the speed and climbing powers of the modern 3½-h. Yet if they only realized it, the modern 3½-h. engine is generally a great deal less comfortable to sit over than the 3-h. of a couple of years back. I have just concluded tests of three best made English 3½-h. 1909 patterns, and I assert confidently that not one of these engines is a patch upon the 1905-06-07 low compression, 3-h. type when it comes to a matter of touring comfort. These engines will touch 50 an hour on the flat, they will storm up our most terrific hills at a frightful bat—but they are less comfortable than our old time engines.

Magneto Position.—Most of our single cylinders carry their magnetos just behind the flap of the front mudguard, a position which sacrifices protection for the sake of a pleasing outline and a short drive. It serves very well for single-cylinders, because the single high tension terminal is situated under the magnets, and if a rubber cover is fitted, no trouble need be anticipated from mud and water short circuits. But the case is very different with twin-cylinders, because the high tension terminals are placed where no cover can clear them, and if a wet cover touches the terminals, shorts are almost bound to occur. It is almost impossible to ride some of our twins on really wet roads, because the H. T. current is always shorting.

A Really Novel Machine.—The 3½-h. Scott, just produced at Bradford, England, is entirely unique, as is proved by the following specifications: Open frame, two-stroke, two-cylinder, water-cooled engine, two-speed gear, chain drive, engine started from saddle by depressing a small heel lever on rear spindle, lopsided piston head, etc. The machine strikes me as the fastest and most silent single-cylinder I have ever ridden, though I have no data for estimating how it will wear, as compared with a standard poppetvalve four-cycle engine.

The Scott Engine.—This is a three-port, valveless, two-cycle type, with "deflector" piston, and the sketch shows the three ports distinctly, viz: an exhaust port on the right of the cylinder, an inlet port communicating with the carbureter on the left hand side of the cylinder, and above the inlet port a "transfer passage" coupling the cylinder to the crankcase. It is plain that as the piston is near the bottom of its stroke, its head will present a steep slope towards the inlet and transfer ports, tending to force any entering gases up to the top of the cylinder, while the other side of the head is so shaped as to deflect burnt gases out towards the exhaust port. The engine works as follows: *Explosion*—The piston de-

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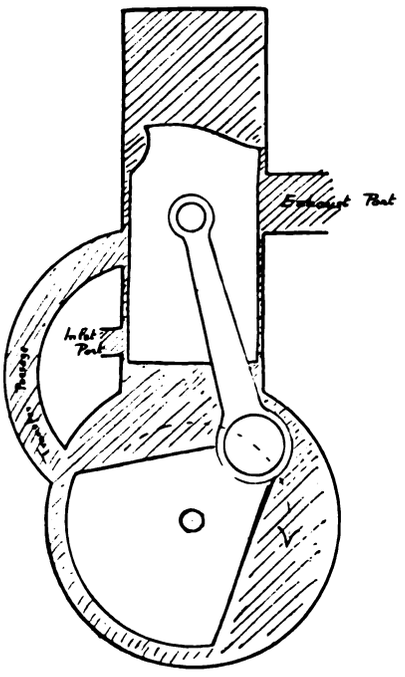
scends, exactly as in a four-cycle engine. When the piston is at the top, its bottom edge is *above* the inlet port, and fresh gas enters the crankcase via the inlet port, while the piston is commencing to descend on its power stroke. Presently, the descending piston covers the inlet port, and the mixture ceases to enter the crankcase; the mixture in the crankcase is now compressed therein by the descending piston. *Exhaust*—As the piston descends further, it uncovers the exhaust port, and the burnt gases begin to escape thereby. Compression continues in the crankcase. The piston next uncovers the top or cylinder port of the transfer passage, and the compressed gases in the crankcase blow through into the cylinder by this passage. The steeply deflected head of the piston guides them up towards the top of the cylinder, where they aid in squeezing out any burnt gas that remains. The piston now commences its up stroke, and closes first the transfer port, and next the exhaust port. Its upward movement simultaneously creates a vacuum, or suction, in the crankcase, which begins to drag at the carbureter as soon as the upward movement of the piston uncovers the inlet port.

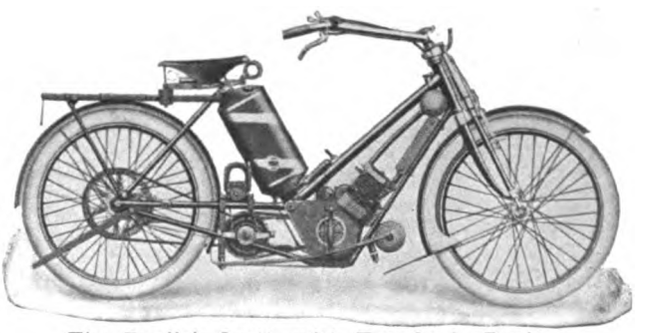


Straws show which way the wind is blowing, and I always said that heavy and powerful single-geared machines would cease to fill the bill when the general public was swept into the fold of motorcyclists. A truly efficient 3½-h., 5-h., or 7-h. is all very well for a juvenile sportsman—so long as he is young and sporting. But the days come along when the waistcoat protrudes, when the temples show bald, and there are patches of grey around the ears; when a wife is waiting up at home, and maybe a cradle or two. Then the jump-on mount, and the fifty-an-hour dash at a big hill and the lugging two hundred weight of metal about the sidewalk before starting cease to charm. Then the erstwhile enthusiasts grumble that the compression is too high—in 1899 we couldn't get it high enough. They grumble that the machines shake—in 1899 we rode rigid forks and vowed we never felt a tremor. They declare 150 pounds is too much—in 1899 we thought nothing of two hundredweight. They protest that they can't get up the hills with 3½-h., or 7-h., and one gear—we used to get up on 2-h. Thusly, people over this side are shouting for lighter machines, multicylinder low compression engines, free engine clutches and two-speed gears; and we are going to get them sooner than your riders may imagine. I reckon the average age of motorcyclists is lower with you than with us, and, therefore, you are more satisfied with single gears and racing compressions than are we. Nearly everybody over here is busy with variable gears, and a majority of the big firms now list them. Miniature twin-cylinder engines, of both four-stroke and two-stroke pattern, are being got out; every designer is cutting down weight hand over hand; and I venture to prophesy that within three years our standard tourist pattern will be fitted with an engine totally dissimilar to those now in vogue, and that variable gears, and saddle starting, and a 90-120 pound weight limit will be all but universal on British motorcycles.

Racing Records.—I don't know how far your F. A. M. recognizes our path and track records, but I do know that our A. C. U. professes to absolutely ignore all American racing records as unreliable. It seems to me it would be a good thing to come to some agreement on the subject. How would it do for your F. A. M. and our A. C. U. to swap a timekeeper apiece next season, so that one of your most trustworthy men might come over here, and examine our methods of verifying distance and time, and one of our men should make the trip to the States and do the same with your dodges? Again it might be well to organize an international motorcycle speed championship at the various distances either on your Indiana speedway, or on our track at Brooklands, but motor racing doesn't draw crowds over here, so that might not pay if we played host. But judging from what I read of the crowds at your race meets, our men would consider an official invite to come and ride against yours on American soil. Most of the old records would probably go off the slate at such a meet, and then we should at least be certain where we stood for the time being.

A Marvelous Performance.—I must risk my reputation as a truthful chronicler by describing what strikes me as the smartest mechanical achievement I have yet witnessed. Not long ago I saw a low compression 3-h. engine, (80mm. x 80mm.) pull a bicycle, weighing 200 pounds, a side car, and two passengers, up Edge Hill, one of the very worst in England, about a mile in length and containing grades as bad as 1 in 6 and averaging about 1 in 10. Needless to say, the machine had a two-speed gear, an epicyclic pattern, patented by A. D. Powell, and located in the rear hub. I measured the ratios, which were 5½ on top, and 11 on bottom, with rubber and canvas belt drive. The speed worked out at about nine miles an hour, practically the entire ascent being negotiated on bottom gear. I have always found that epicyclic gears eat up so much power on their low ratio that they are not much more use than a single gear, but in this hub I have struck a device that is almost frictionless, and I am going to invest.

Luggage Carriers.—Our standard machines are fitted with fixed tubular carriers over the back wheels, which are all right till the back tire picks up a horse nail, and then what with carrier, mudguard, stays, belt rim, brake gear, and so on, the inaccessibility of the rear tire causes repairs to progress in a blue and sulphurous atmosphere of angry lingo. I have just got a new carrier which fills the bill very neatly. The best part of the back mudguard, *i. e.*, all the arc between its tail end and the rear forks, is a permanent part of the carrier, and has no separate stays of its own. The carrier is held by four clips, all permanently attached to the machine.



The English Scott, with Two-Cycle Engine

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MOTORCYCLING UP MOUNT TAHOE

The Story How, One Day Last Summer, This Remarkable Feat Was Accomplished By Two Determined Western Riders—Natives Had Laughed At Them

IT was on a day in June, 1908, while on a trip through the country on my motorcycle, an Indian twin, I stopped at a little mining town called Angel's Camp, situated in Calaveras County, California. While there I met some old friends of mine who had just returned from a trip to Lake Tahoe, that beautiful mountain-bound lake, situated in the high Sierras. They had made the trip in a buckboard, and had enjoyed it very much. I suggested making the journey on a motorcycle, but they laughed and said it would be impossible, as the roads were too rough and the grades too steep. That night I laid awake and planned my trip. The following morning I telephoned over the long distance wire to San Francisco to a friend of mine who is a great motorcycle enthusiast, and asked him if he wanted to take a trip to the lake. He said he would be glad to go, so we made final arrangements, and that night he trundled his motor aboard one of the fussy little river steamers which ply between San Francisco and Stockton, which is situated on one of the sloughs tributary to the Sacramento River, and about a hundred miles from 'Frisco. The same day I left Angel's Camp and rode fifty miles through the hills, arriving in Stockton late in the afternoon. I then looked my motor over carefully, filling up my gasoline and oil tanks, and pumping my tires hard. I then went to the hotel for the night.

Bright and early the following morning, I was at the wharf, just as the steamer tied up at her landing. There, on the forward deck, was my friend with his motorcycle, an '08 Indian, single cylinder. After landing, we rode up town and got a good breakfast. Then, bidding farewell to Stockton, we headed out the Lodi road, going through Lodi and Walsh Station, finally arriving at Latrobe, where lunch was procured. Once more we started on our journey, and for about three hours we rode through the barren foothills, with a blazing sun beating down upon us. My friend cut his rear casing on a sharp rock. We dismounted and worked with that tire for about half an hour, finally fixing it, and again we proceeded on our trip, and, at four o'clock, coasted down the long grade into Placerville, a pretty little mining town nestling in the heart of the mountains.

OVER THE STATE ROAD.

Again we filled up with gasoline, and after getting a bite to eat, left town at 4.30 p. m. From here on the course lay over the State road, which was very bad, with its dust and sand and continuous upgrade, and fifty miles to the summit. The short drive chains from the engines would get dry as a bone, until finally, at a woodchopper's camp, we procured a can of axle grease, with which we liberally daubed the chains. The shadows were lengthening and the air becoming cooler, when, on rounding a curve, we rode into a clearing which contained a long, low-built house, with a sign hung over the entrance that read "Slippery Ford."

Resting in the Lap of Nature—A Few Moments' Respite from a Truly Arduous Task

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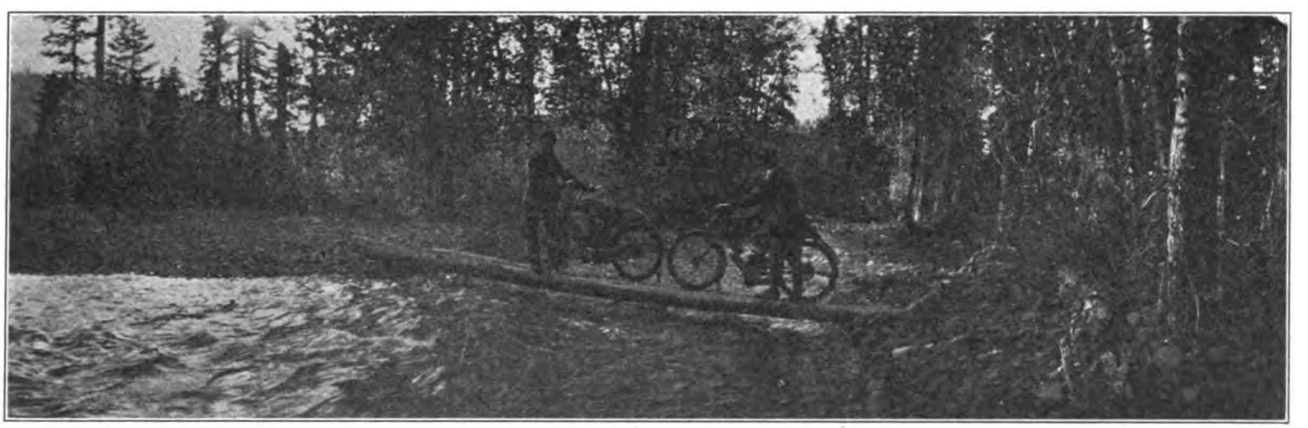
After eating we sat by the big log fire and had the natives explain to us how we would get stalled on the heavy grade that rose to the summit. We were the only motorcycle riders who had ever ridden through that part of the country and consequently were the center of attraction. Early next morning, after a splendid breakfast, we hit the road for our next stop, a place called Strawberry. After floundering across several creeks and scrambling through the dust for about ten miles, we arrived at Strawberry, but kept on for about five or six miles until we saw a stiff climb ahead. We stopped and let the engines cool, whereupon my friend took the lead. I could hear the chug-chug-chug of his engine exhaust get slower and slower until finally the sound all but ceased. I speeded up my old twin and swung around the curves at a breakneck pace, and at last I arrived in sight of my friend. He was game to the backbone, and although only two-thirds up the hill he was still riding. I opened the gas and advanced the spark all the way, and tore for the last sharp rise as fast as the motor would travel, dodging rocks and ruts. Finally I caught up with him, but in trying to pass I ran into the bank and was stalled. He kept on pedaling right up to the tree on which hangs the sign, "Summit, 7,394 feet." I walked the remaining distance and congratulated him.

up with gasoline, our road led around through the trees to the most popular resort on the lake, McKinneys, a distance of nine miles. The road was very crooked and, while going at a good rate of speed, my companion was suddenly confronted by a right angle curve. He was going too fast to make it, so he headed for a large fir tree. I went back and helped untangle him from the brush. A half mile further the road suddenly ducked into a large stream, very wide and deep. Looking up the bank we noted that a log had fallen across the stream. Walking straddle-legged backward, and leading our machines after us with the front wheels wobbling between our legs, and threatening every moment to take a dive, we succeeded in crossing. After negotiating this last obstacle, we rolled into McKinneys just at dark. We stayed at this beautiful resort about a week, fishing, taking pictures and climbing snow-clad peaks in the near vicinity.

On our return trip, we started for Truckee, twenty-four miles away. The road was in a terrible condition, the mud being of the slippery, sticky kind. I had two and one-half inch tires on my machine, and, as there was very little clearance between the forks, the mud would get caked under the guard and finally jam the wheels so they would not turn. At about 1 o'clock Truckee came in sight. We filled our tanks and started out again for the



How One of the Difficulties was Surmounted by the Two Intrepid Knights of the Motorcycle

From this point the view was magnificent. Away to the east lay Desolation Valley, and in the distance the lake, looking like a mill pond. All about us were snow clad peaks, while Mount Tallac, with its everlasting snow cross, loomed dark and dreary. We took some pictures on the summit, congratulated one another on being the first motorcycle riders to have ever reached this point, and then, taking our engine chains off, we started coasting down the side of the mountains, and for ten miles we whirled along around bends and through forests. Then came the sand, through which we labored until about 11.30 a. m., when we crossed the California line into Nevada, stopping at a place called Lakeside. Here we ate lunch and on inquiry found that the lake steamer was due at 12.30 p. m., stopping for about ten minutes on its daily trip around the lake. We boarded the vessel, but only after having been compelled to empty all our gasoline into the lake, and at five o'clock tied up at the dock at Tahoe Tavern. On getting our motors ashore, the gasoline question confronted us. Inquiring, we found that Tahoe City was our base of supplies, and our feet the only mode of conveyance.

Leaving the motorcycles on the dock, our road led around the shore of the lake, through the heavy forests of fir and pine, and crossed the Truckee River. At the end of a half hour's walk the town loomed up and we soon had a five-gallon can of the precious fluid. After filling

Summit Hotel. This road was good, winding in and out through the mountains, and finally running parallel with Donner Lake for a number of miles. Then suddenly it started right up the side of the mountain. The ascent was terrific. We took off the engine chains and pushed the free machines; but it took us four hours to make nine miles, and then the road crossed through one of the great snow sheds that the Southern Pacific has erected for some forty odd miles along their right of way. I suggested we go through the snow shed, and my friend consented. Ultimately we reached the Summit Hotel, where we stayed for the night.

The following day we rode over very good roads to Sacramento and on into Stockton. Next day saw us on our way to Oakland, where we finished our great ride, thanks to the reliability of our motors. They never missed a shot on the trip, and all the damage sustained was a couple of broken pedal pins.

THERE'S a world of meaning in the following—it's so pointed. Read:

"Enclosed find money order for $1 for one year's subscription to your worthy paper.

"The rest of the bunch quite often beat me to the news-stand. Yours truly,

"Bakersfield, Cal. D. F. LIGHTNER."

"June 3, 1909.

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A STRIKINGLY NOVEL ENGINE VALVE DESIGN

WE give particulars here of a novel roller valve engine, which has just been designed by a once famous motorcyclist of some years ago. This motor is the production of Anzani, who, in the early days of motorcycling, was conspicuous from the fact that he procured wonderful efficiency out of his engines and won with ease all the "quart de litre" races, the quart de litre capacity being about 2¼-h. Anzani actually attained speeds of over 50 miles an hour on this rating, and thus became known as a clever designer. Anzani's new engine is practically a slide-valve, like the Knight, somewhat similar in general principle, but entirely different in the matter of execution. Two water-cooled single-cylinder models of 100 millimetres bore, by 200 millimetres stroke, were built in anticipation of the Monaco motor-boat races, but, though showing very satisfactory results from a bench test, were thought capable of detail improvement and were, therefore, not put to a public trial.

The slide does not surround the piston, as in the Daimler engine, but is carried in the head, parallel with the main shaft of the engine. It consists of a steel roller, with a portion cut away almost the entire length and from face to face. In the head of the cylinder, above the combustion chamber, is a separate chamber completely water jacketed, with a hole right through to receive the roller valve. Surrounding this hole, through the cylinder head, are three openings, two, of equal size, being respectively for taking in the fresh charge and the exhaustion of the spent gases, while the third, of smaller width, communicates directly with the combustion chamber of the motor.

With the roller valve placed in this guide in the combustion head extension, it is easy to see that it can be made to put the intake port into direct communication with the main combustion chamber, to close all openings during the compression of the charge and the firing of the gases, then to uncover the passageway from the combustion chamber to the exhaust port. For this, all that is necessary is that the roller shall revolve at half the speed of the engine shaft. The roller valve, being completely surrounded by water, operates under extremely advantageous conditions. Cooling is further helped by the fact that the single port of the roller assures the passage of both the hot exhaust gases and the cool charge of fresh mixture. Lubrication offers no difficulties, and the roller valve can be dismounted for inspection or cleaning much more rapidly than the ordinary type of poppet valve.

The manner in which the roller valve is driven is by a vertical spindle operated by skew gear off the main shaft; the upper end of this is received in a bronze plate, forming a bearing for both the spindle and the roller valve. A pinion on the upper end of the spindle meshes with a gear on the end of the roller valve.

As the lower end of the spindle has a squared end, fitting into the horizontal pinion within the crankcase, it merely has to be lifted out to be disconnected here. The spark plug is carried in the head of the combustion chamber; in reality there are two plugs, one at each side of the cylinder, but the maker states that this is a specialty only for racing purposes. The vertical spindle carries on its upper end a simple type of make and break contact case, in which position it is remarkably free from oil splashing, and also quite accessible.

This engine will be first produced for small cars, but as Anzani is still an ardent motorcyclist, it will not be surprising to hear that he has adapted this slide, or rotary valve, to motorcycle construction, although the model will in all probability have to be watercooled to avoid distortion of the valve cylinder. Indeed, there is already one rotary valve motorcycle engine in existence. This type is also the invention of a motorcyclist, and hails from England, the difference being that the valve is adapted for an air cooled engine and is fitted vertically, instead of horizontally, in the cylinder head, and is operated by a skew gear.

The claims made for rotary and slide-valve engines are increase of efficiency and greater silence. Still, finality in design has not yet been reached; indeed, we are a long way from it. Yet simplicity in construction will appeal to the most unmechanical of us, so that a wide field for research is open to the inventor.

TWO PICTORIAL PROOFS OF JUVENILE ENTHUSIASM IN THE MIDDLE WEST

THE circular cut is a reproduction of a photo of Alan Wood, 757 Dayton avenue, St. Paul, a 14 year-old Harley-Davidson rider. The picture below was sent in by G. H. Niedergard, Steubenville, O. One wonders in which he takes the greatest pride—baby or motorcycle.

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RODE 1,000 MILES IN FIVE DAYS

THIS is a photo of George Lyon, of Chicago, who recently established a record by riding 200 miles daily during five consecutive days.

A UNIQUE BALTIMOREAN SIDE CAR

CHICAGO RELIABILITY RUN, JUNE 25-27, PROMISES TO BE A SEVERE TEST

CHICAGO.—Dates have been selected for the three-day reliability run of the Chicago Motorcycle Club and rules formulated for a contest which is expected to be the most severe for the two-wheel machines ever held in America.

June 25-26-27 are the days for the test, and the route arranged is the same one over which the first endurance run for automobiles took place two years ago, under the auspices of the Chicago Motor Club. This means that on the opening day the contestants will run to South Bend, Ind., and return; on the second day to Rockford and back, and the third and last day's journey will be to Ottawa, Ill., and return.

Under the rules which have been arranged by Referee and General Executive Fredric B. Hart, the contestants must compete in teams of three each, and travel in groups of three contestants from different teams. Under this plan each of the three competitors will act as observer on his two companions, forming a double set of observers, an idea which is expected to make the contest absolutely free from opportunity to break the rules of the contest.

Referee Hart has devoted many weeks to the arrangement of the rules and has studied the plans for every contest of note ever held in this country. In addition, he has formulated rules all of his own, in the hope of making the contest a genuine reliability test, in all that the name implies.

"In many contests," said Mr. Hart, "the affair has degenerated into nothing but a speed stunt, the only checking being on time at controls. In the coming event, however, I believe that a true test of the efficiency of all the machines will be given."

The referee's fellow members of the committee of arrangements believe Mr. Hart has embodied every possible condition that will tend toward a successful contest, and expect a test which will prove the efficiency of the motorcycle.

The officials for the contest are: Referee, Frederic B. Hart; starter, C. H. Lang; assistant starter, J. S. Woodworth, and clerk of the course, John T. Fisher.

T. E. Riley, globe-trotting motorcyclist, who is making a tour of the world on an Excelsior autocycle, has passed Chicago, wearied from his arduous journey from Spokane Wash. He has met about every natural impediment within the range of the weather man. He was snowed in while in the Rockies, nearly drowned in mountain streams raised to torrents by continued rains, drenched by downpours and worn by fighting his way through mud in which his machine sunk till the crank case was partially submerged.

Mr. Riley is one of the large, wiry class of men, well equipped, physically, for such a trip. From New York he will proceed to Europe and will travel through Ireland, England and France. It is his intention to ride in five continents, America, Europe, Asia, Africa and Australia, before his return to Seattle within a year.

CHICAGO.—On Decoration Day, the Indian Motorcycle Club, through the special efforts of T. C. Mac Vicker, conducted a 26 mile handicap road race, from Melrose Park, Ill., which is just outside of the city limits, to the Fox River Country Club, at Geneva, Ill. There were 21 starters, 17 of whom finished. Mr. C. Van Sickle, of Hammond, Indiana, won in 51 minutes. The others finished in the following order:

Chas. Jenkins, E. W. Mathews, C. McVicker, R. Russ, W. Molden, W. Cook, A. Kragocgil, H. Ortmeyer, H. Groomis, C. Cook, H. W. Nelson, J. W. Selcheek, J. Rosebaum, J. Dolegal, and Frank Dolegal.

After the race, Mr Fisher, local manager for the Hendee Manufacturing Company, gave the boys a dinner at the Fox River Country Club. The affair was so successful that the club intends to run another race July 5th.

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THIS SEASON'S AMERICAN RACING RECORDS

A Complete List of the New 1909 Figures Shows That Practically All the Fast Riding Has Been Done in the Los Angeles Coliseum—Four Daytona Records

Distance	Time.	Professional or Amateur.	Circular or Straightaway.	Rider.	Place.	Date.
¼	28	Am.	C.	Balke	Los Angeles	May 16
1	47 1-5	Pro.	C.	De Rosier	Los Angeles	March 14
1	43 2-5	Am.	S.	Stubbs	Daytona	March 25
1	46 4-5	Am.	C.	Graves	Los Angeles	April 25
2	1.32 2-5	Pro.	C.	De Rosier	Los Angeles	April 4
2	1.37	Am.	C.	Huyck	Los Angeles	April 25
3	2.23 2-5	Pro.	C.	De Rosier	Los Angeles	May 16
3	2.26 4-5	Am.	C.	Huyck	Los Angeles	April 25
4	3.12 1-5	Pro.	C.	De Rosier	Los Angeles	May 16
4	3.17 1-5	Am.	C.	Huyck	Los Angeles	April 25
5	3.53 3-5	Pro.	C.	De Rosier	Los Angeles	April 11
5	3.59 1-5	Am	C.	Graves	Los Angeles	April 25
5	3.30 1-5	Am.	S.	Goerke	Daytona	March 24
6	4.46	Pro.	C.	De Rosier	Los Angeles	May 16
6	4.47	Am.	C.	Graves	Los Angeles	April 25
7	5.37 1-5	Pro.	C.	De Rosier	Los Angeles	May 16
8	6.26	Pro.	C.	De Rosier	Los Angeles	May 16
9	7.14	Pro.	C.	De Rosier	Los Angeles	May 16
10	8.05	Pro.	C.	De Rosier	Los Angeles	May 16
10	8.08 4-5	Am.	C.	Ward	Los Angeles	May 16
11	9.13 2-5	Pro.	C.	De Rosier	Los Angeles	May 16
12	10.04 3-5	Pro.	C.	De Rosier	Los Angeles	May 16
13	10.56	Pro.	C.	De Rosier	Los Angeles	May 16
14	11.49	Pro.	C.	De Rosier	Los Angeles	May 16
15	12.41 3-5	Pro.	C.	De Rosier	Los Angeles	May 16
16	13.38 4-5	Pro.	C.	De Rosier	Los Angeles	May 16
17	14.25 3-5	Pro.	C.	De Rosier	Los Angeles	May 16
18	15.18	Pro.	C.	De Rosier	Los Angeles	May 16
19	16.10 1-5	Pro.	C.	De Rosier	Los Angeles	May 16
20	17.01 2-5	Pro.	C.	De Rosier	Los Angeles	April 18
20	17.26 1-2	Am.	S.	Chapple	Daytona	March 26
21	17.54 1-5	Pro.	C.	De Rosier	Los Angeles	May 16
22	18.46 4-5	Pro.	C.	De Rosier	Los Angeles	May 16
23	19.38 2-5	Pro.	C.	De Rosier	Los Angeles	May 16
24	20.31	Pro.	C.	De Rosier	Los Angeles	May 16
25	21.38 2-5	Pro.	C.	De Rosier	Los Angeles	April 18
30	29.41	Pro.	C.	De Rosier	Los Angeles	April 18
35	34.23 2-5	Pro.	C.	De Rosier	Los Angeles	April 18
40	38.54	Pro.	C.	De Rosier	Los Angeles	April 18
45	43.29	Pro.	C.	De Rosier	Los Angeles	April 18
50	48.21	Pro.	C.	De Rosier	Los Angeles	April 18
55	53.14 4-5	Pro.	C.	De Rosier	Los Angeles	April 18
60	57.51	Pro.	C.	De Rosier	Los Angeles	April 18
61 1-3	1.00	Pro.	C.	De Rosier	Los Angeles	April 18
65	1.04.27 4-5	Pro.	C.	De Rosier	Los Angeles	April 18
69	58.25 4-5	Am.	S.	Goerke	Daytona	March 25
70	1.09.07 1-5	Pro.	C.	De Rosier	Los Angeles	April 18
75	1.13.45	Pro.	C.	De Rosier	Los Angeles	April 18
80	1.18.34 1-5	Pro.	C.	De Rosier	Los Angeles	April 18
85	1.23.25 3-5	Pro.	C.	De Rosier	Los Angeles	April 18
90	1.28.18 1-5	Pro.	C.	De Rosier	Los Angeles	April 18
95	1.33.12 2-5	Pro.	C.	De Rosier	Los Angeles	April 18
100	1.37.59	Pro.	C.	De Rosier	Los Angeles	April 18

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Indianapolis Enthusiasts Getting Ready for the F. A. M. Convention and Race Meet

Just a Few of the Riders in Indianapolis

INDIANAPOLIS.—From the direction of the four winds motorcyclists will invade the Hoosier capital to hold their national convention the latter part of July, or early in August. This will furnish the second plume to the capital's bonnet caused by the location of the five mile race course west of this city.

In addition to the F. A. M. meet, there will be track racing and endurance runs which promise to make former tests fall by the wayside. The hills in southern Indiana promise as gruelling a test as machinery, tires and riders have ever been called upon to endure.

The local Motorcycle Club ranks about second largest in the United States in membership, and has among its members men of fame as riders, builders and promoters. Everything possible is being prepared by the "hosts-to-be," making way for the influx of visitors. The date of the convention will be determined in a few days by the national officers.

While no definite route has been laid out for the endurance run, there is some talk of making it from Buffalo to Indianapolis. If this route is decided upon it is quite probable that it will be laid out from Buffalo to Erie, Pa., thence to Cleveland, then southerly and westerly to Columbus, O., then west to Indianapolis. The distance is a little over 563 miles.

The other route being talked of is from Indianapolis to French Lick, then back to Indianapolis by way of some other route. This would make a two days' run and it seems the most favorable, as it will make Indianapolis the starting point as well as the finish.

The officers of the Indianapolis Club are: Charles Wyatt, president; H. L. Dipple, vice-president; Harry Graff, treasurer; Robert Sturm, secretary; directors, F. I. Willis, G. H. Hamilton and L. Wainwright.

SEVEN EVENTS IN N. Y. M. C. HILL CLIMB

THERE will be seven events in the program for the New York Motorcycle Club's open hill climbing contest, which is to take place June 19th. There will be four contests for touring machines of 24, 30.50, 50 and 61 cubic inches piston displacement respectively, two open events for the 30.50 and 61 classes, and a seventh event conducted according to Callendar's formula. The touring machines must be fitted with standard saddles, handle bars, mud guards and mufflers, and with tires of not less than 2¼ inches.

The hill selected for the climb is located on the Riverview Manor estate, a half mile from Hastings-on-the-Hudson, 18 miles from New York City. The grade, averaging 14 per cent, is 2,900 feet long. Entries should be sent to A. G. Chapple, 2234 Broadway. The entry fee for the touring machine events is $2, and for the open events $3. Post entries will be taxed $1 extra. The climb will be started at 1 p. m.

PITTSFIELD, Mass.—One of the features of the local Fourth of July celebration will be an automobile and motorcycle parade. The latter will be under the direction of Dr. E. D. Budreau, who expects to have at least a hundred riders in line.

DAYTON CLUB'S MEET A BIG SUCCESS

THE following are the summaries of the race meet held on Decoration Day under the auspices of the Dayton, O., Motorcycle Club:

Two mile, under 20 cu. in.: Howich, Indian, first; De Gruchy, Thor, second; Allen, Thor, third; time, 3.08 2-5.

One-sixteenth mile slow race: Jacobs, New Era, first; Anderson, New Era, second; time, .56.

Three mile challenge club cup race: Nixon, Indian, first; Gross, Thor, second; Butler, Excelsior, third; time, 4.36 1-5.

One mile open: Allen, Thor, first; Butler, Excelsior, second; DeGruchy, Thor, third; time, 1.37.

Five mile handicap: Nixon, Indian, first; Howich, Indian, second; Martin, Indian, third; time, 7.19.

Three mile match race between Gross and Butler: winner, Gross; time, 4.34 2-5.

Five mile open: Allen, Thor, first; Nixon, Indian, second; Butler, Excelsior, third; time, 7.18.

Pursuit Race: Won by Allen on a Thor; distance, 13 miles; time, 18.57.

BLOOMINGTON, Ind.—The athletic coaches of Indiana University are now using a motorcycle for pacing the runners in the quarter, half and mile trials. They are highly pleased with the experiment.

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TROY, N. Y.—The local motorcycle season was opened Decoration Day by the Troy Motorcycle Club, on the track at Rensselaer Park. This track is a half mile in length, and the curves are only slightly banked; this, together with three days of hard rain just previous to the race, was responsible for the very poor time made; nevertheless, the gate receipts showed that about 7300 people were present.

The Troy Motorcycle Club is only two years old and there are twenty-four members on the roll. The majority of these were entered, together with riders who hailed from Albany and Schenectady, and who are members of the Hudson and Mohawk Motorcycle Club.

The three mile race was for single-cylinder machines, the five mile was for doubles, and the ten mile, a free for all, the single-cylinder machines having one half mile handicap. The Indian machines finished first, second, and third in all three races, as follows:

Three mile: first, Wm. Bailey; second, H. E. Peck; third, W. S. Beddow; time, 4.37 1-5. Five mile: first, Ray Hunter; second, John Holmes; third, Wm. Jacques; time, 7.38 2-5. Ten mile: first, Wm. Jacques; second, John Holmes; third, W. S. Beddow; time, 15.03.

THE reliability run of the Washington Automobile Club, of 164.8 miles, last Saturday, was seized upon by several enthusiastic motorcyclists to test their machines in competition with automobiles.

The results were highly gratifying to the cyclists, who did excellent work on the road. J. S. Berryman, on a Harley-Davidson, left the starting point about 5:30 a. m., and finished about half an hour behind the Packard, which was first in among the automobiles. Mr. Berryman says he beat the autos into Waynesboro, and would have finished on equal terms with the Packard except that he got lost and went ten miles out of his way near Hagerstown, and when near Washington, on the return trip, he waited by the roadside for another cyclist in the party. The machine finished the trip in excellent shape and without a puncture.

PHILADELPHIA.—The first run of the Philadelphia Motorcycle Trade Association, to Atlantic City and return, was held Sunday, June 6th. Fifty-five riders participated and the following finished: C. F. Hafer (Wagner), Charles Parker (Excelsior), J. H. Schafer (Reading-Standard), R. M. Buckerhoff (Excelsior), Carl E. Johnson (Peugeot), S. L. Lyon (N. S. U.), W. A. Hahn (Harley-Davidson), W. T. Carter (Minneapolis), C. Anderson (Thor), W. D. Price (Wagner), W. D. Edwards (M.-M.), H. Canfield (Peugeot), Ed. L. Parmelle (Excelsior), F. B. Brunner (Thor), L. Janeway (Torpedo), Harry Lightcap (Peugeot), C. W. Risden and H. C. Tansey (Indians).

PATERSON, N. J.—In an attempt to break the five mile track record on the Clifton Stadium, a week ago Sunday, champion De Rosier was slightly injured through the bursting of a tire, after he had finished the first mile, which he made in 55 3-5 seconds. De Rosier had quite a hard fall, but, though somewhat bruised, was able to walk to his dressing room unassisted. The three mile event was won by Charles Turville; Rob Schultz was second and Carl Ruben, third. The time was 3 minutes and 16 3-5 seconds.

AS one of the features of the Fourth of July celebration, to be held on the Yates Co. Agricultural Society Grounds half mile track, at Penn Yan, N. Y., Monday, July 5, there will be the following motorcycle events:

No. 1—Five mile, single-cylinders only. Stock machines. No. 2—Five mile, double-cylinders only. Stock machines. No. 3—Ten mile, single-cylinders only. Stock machines. No. 4—Ten mile, double-cylinders only. Stock machines. No. 5—One mile, open to all. For track record. Flying start. Each contest separate trial. No. 6—Three mile, open to all. Flying start all together. Single-cylinders only.

Entries should be forwarded to F. Miller, Secretary of Penn Yan Racing Association.

BRIDGEPORT, Conn.—Five members of the Park City Motorcycle Club devoted the holiday to a two day's run to Boston and return. Those who participated were E. G. Bishop (Indian Bish), R. T. Steiner (Blue Smoke), Joe Scoda (Coaster Brake Scoda), Emil Scoda (V-Belt Scoda), and E. B. Langdon (Search Light Eddie). Emil Scoda and F. B. Langdon rode Curtiss machines, while the other three were mounted on Indians. The club's breezy press agent devoted two columns of space to the recital of the enjoyable details of the run. Suffice it to say that the Park Motorcycle Club, though a new organization, has the right kind of enthusiasm behind it. It will prosper.

NEW JERSEY is soon to have a 2½ mile speedway. Announcement was recently made at Trenton of the organization of a number of metropolitan autoists who contemplated the construction, at the cost of a half a million, of a 2½ mile auto track, enclosed within which will be a one mile running track for horses. In connection with these there will be erected a hotel, garage and sleeping quarters for mechanics, etc. The auto track will be laid out in usual saucer shape with one mile straight away stretches on either side and quarter-mile turns, sufficiently banked to permit a speed of fully 60 miles an hour on the turns.

CHICAGO.—In a comprehensive exploring tour of the Central States, for the purpose of outlining routes for motorcycles, Ralph Moore and Jesse McCulloch of Batavia, Illinois, are covering a large amount of territory in a short space of time. The young men are riding M.-M. motorcycles, and accomplish from two to three hundred miles a day, demonstrating the efficiency of the small machines for long-distance road work. Last week the young men traversed many Wisconsin roads, and this week made a careful study of roads in the direction of Springfield, Illinois.

LEWISTON, Maine.—Although road conditions in this state are not such as would attract much interest in motorcycling, nevertheless, 400 owners of machines have secured licenses thus far this season.

A VERY important addition to the English Army is about to be made in the form of a motorcycle corps of 1000 members, to be called the Autocycle Legion.

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MOTORCYCLE ILLUSTRATED

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F. P. PRIAL

J. LEO SAUER - - - - - - - - *Editor*
L. H. CORNISH - - - - - - *Advertising*

SOME FACTS AND A FEW QUESTIONS

TO "live and let live," one might add, in order to bring the old saying into harmony with the times, this simple injunction: "Give your neighbor, whether friend or foe, a perfectly square deal." Of course, it requires breadth of understanding, and a relegation to innocuous desuetude of one's prejudices, to succeed in living right up to the modern ideal of that human democracy which spells fairness to all. It is not important, however, that few, if any, succeed in realizing a perfect form of disinterestedness, for the American people are always willing to stamp the seal of their approval upon the actions of those who try, irrespective of the result of their endeavors. Conversely, we have learned to either become indignant against, or to pity those who do not even make an effort to be reasonably fair towards others. Yet, "deliberately and with malice aforethought," our contemporary has placed itself in that unenviable category. Its sanctum sanctorum has become covered with the barnacles which not only impede all progressive thought but, as well, serve to completely clog its scales of justice. To all appearances, it has been rendered hopelessly incapable of being affected by even the most elemental considerations of true sportsmanship and fair play. Let us specify.

In our May 15th issue, we gave expression to a few timely thoughts regarding present-day conditions in the F. A. M. While acknowledging the excellence of our intentions, our contemporary, in its issue which followed, took vigorous exception to a number of our views. So far, so good. It was certainly its privilege to express its exact sentiments on the subject. The fact that in certain important particulars, it stated out-and-out opposition to our propaganda, simply added interest to the controversy. But the Bicycling World did not stop there. Instead, it incorporated in its answer a series of attacks upon the President of the F. A. M. To its three-pages of editorial comment it added a page of what purported to be an interview with the secretary of the F. A. M. This simply bristled with charges against Mr. Ovington. Accordingly, the latter prepared a very comprehensive answer, copies of which he mailed, three or four days after the aforesaid attack, to both the editor of the Bicycling World and to the editor of this paper. Since then, three numbers of our contemporary have been printed, viz: the issues of May 29, June 5th and June 12th respectively. Only Mr. Ovington's references to the F. A. M. Emblem have been published. In fact, he has simply been ignored. We refrained from publishing the letter, if only because we believed the entire affair was our contemporary's business, not ours. We so informed the President of the F. A. M., and then waited a fortnight. Still no sign of his letter in the columns of the Bicycling World.

"What is Hecuba to me, or I to Hecuba," are the words which the Bard of Avon places in the mouth of one of his characters. We would paraphrase to make the question apply to Mr. Ovington. But though this paper be plenty big enough to stand unsupported by any official interests, it is but a mite as compared with the requirements of Justice. That is why we are giving Mr. Ovington the opportunity which, with gross discourtesy and a scandalous manifestation of unsportsmanship, our contemporary has refused him We had not intended to publish Ovington's letter; otherwise it would have appeared in our previous issue. We believed that to be the responsibility of our contemporary which, in its frantic endeavor to defend the Secretary, had so bitterly attacked the President of the F. A. M. Even as it is, we are using Mr. Ovington's communication in condensed form, giving space only to the most important matters which he discusses. Moreover, we do not intend to comment in any way upon Mr. Ovington's defense of his attitude. We leave that to our readers; they are quite capable of passing their own judgment in the premises.

But why, we should like to know, has our contemporary refused to publish this letter? Are its columns closed to those who entertain different views than does the editor of that publication? Have those who attacked Mr. Ovington exhausted the entire supply of their ammunition in their first onslaught? If they have anything in rebuttal, why haven't they printed the letter, with such counter criticisms as they were able to make? If Mr. Ovington's demands upon their space were unreasonable, why haven't they stated their objections? Mr. Ovington is about to retire from the Presidency of the F. A. M., which relieves us of any suspicion of forwarding his personal interests, and our contemporary of the embarrassment which it might otherwise have possibly felt. Can it be true that, Mr. Ovington having "called a bluff," the erstwhile bluffing parties are not decent enough to admit it?

We regret exceedingly that the Secretary of the F. A. M. has permitted himself to be cajoled into making such a boomerang attack upon the President. We are sorry that he should have allowed himself to be used as the weapon whence have gone forth the poisoned shafts directed by the editor of our contemporary. He must now realize that he has been sorely misled. But the situation is not so serious as to be irremediable. We, at least, harbor no ill feeling against Mr. Wehman. He seems to have been, more than anything else, the victim of circumstances. We do not believe that he has intentionally done wrong; his delayed remittance proves that he means well. Nor do we doubt for a moment that he will prove his integrity to the satisfaction of everybody concerned. We do not claim, by any means, that Mr. Ovington has a monopoly of the right in this matter. We are not at all interested in the causes and results of their personal dissensions. On page 14 of this issue, we publish Mr. Ovington's letter, which incorporates all that was important in our contemporary's editorial and Mr. Wehman's interview. Our readers may make their own comparisons, and draw their own conclusions.

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PRESIDENT OVINGTON'S LETTER

Herewith is the Communication Which, for Reasons All Its Own, Our Contemporary Refused to Print—F A. M. Problems Discussed With Vigor and in Detail—Mr. Ovington's Views

The following is a condensed copy of the letter sent by F. A. M. President Ovington to the Bicycling World, and which that paper declined to publish. At Mr. Ovington's request, it is given publicity in these columns.

Editor Motorcycle Illustrated,
New York City.
Dear Sir:

The article in Motorcycle Illustrated which prompted the editorial headed "Reorganization of the F. A. M.," in the Bicycling World, came pretty near hitting the nail on the head. The motorcyclists of America have a right to know the inside facts with regard to their national organization which they are supporting.

I have Treasurer Gibson's last report before me and under the "Division of F. A. M. funds," I find that there was at the end of March $642.83 in the national treasury, while there was almost as much, namely, $516.87 in the eastern district treasury. Your contemporary asks if this is counterfeit money, and why it cannot be spent for certain purposes for which money is much needed. I reply by stating that $642 cannot be drawn upon to a great extent without depleting the national treasury to a point below the danger line.

Your contemporary states that if there has been any bar to a very marked upward improvement of the F. A. M. that bar is found in the person who occupies the position of President. I take this opportunity of saying that by acting as President of the F. A. M. I have actually hurt my personal and business interests to a degree which very few will understand or appreciate. Any man who takes a decided stand in a position such as I hold in the F. A. M. must needs make many enemies, which certainly reacts against him in a business way.

It is claimed that I consider the F. A. M. as chiefly a racing machine. I will acknowledge that I have devoted much time and thought to motorcycle racing and I think too that most of your readers will acknowledge that much of the popularity of the motorcycle is due to motorcycle competition. Is it surprising that I have given this, therefore, so much time and attention?

As far as the plan of government of the F. A. M. is concerned, I would say that from my experience, I am not at all in favor of the existing system. In my opinion it has been a failure from the very start. A strong central organization is what is needed, and unless I am mistaken that is what there will be after the meeting in Indianapolis.

Another matter is the election of officers. Why should a handful of motorcyclists, who attend the annual business meeting of the F. A. M., principally because they happen to be on hand for the endurance contest—and, therefore, it is little trouble to remain over—be the ones who should elect the officers and decide upon the future of the Federation? The members at large, who are spending their good money to support the organization, should certainly have the right to vote as to how their money should be expended, and to help decide who should act as their officers. The annual meeting and the election of officers by merely the members present has proved to be nothing more or less than a farce. It has made it possible for practically one clique of men to railroad themselves into office year after year.

As far as the revision of the Competition Rules of the F. A. M. is concerned, that is in the hands of a committee of fifteen. At the last annual meeting of the F. A. M. it was voted that this committee be appointed and instructed to revise the rules. Nothing whatever was said about submitting suggestions, for I happen to have the Secretary's own copy of the minutes of this meeting.

With regard to my own ideas on this subject I would say that while abroad I could not help but be impressed with the fact that dividing the private owner from the trade rider has many advantages. I did not think, however, of introducing that division into this country and would not have considered it had not several very important men brought the matter to my attention without my saying anything one way or the other about it. I now find that the opinion very largely prevails in this country that something should be done to give the private owner, who has paid for his machine, and who is not in any way connected with the trade, some sort of a chance in competition. In my opinion it is a rank injustice to put the man who has paid for his machine, who must pay for his repairs and spare parts and his own expenses, against the picked trade rider who spends most of his time engaging in competitions; who has a large and well equipped factory at his beck and call; who has a corps of expert mechanics to keep his machine in perfect tune and whose expenses are paid by the manufacturer.

I am open to argument but at present I believe there should be three classes, namely, private owner, trade rider and professional. The time has come when the trade rider has reached a stage of development where he should be put in a class by himself. The trade rider of to-day is very far from being the Simon pure amateur and, on the other hand, he is not a professional as defined by our present rules. By having the three classes the long suffering private owner and average motorcyclist entering competitions will have some chance of winning a prize, and at the same time we will have fixed matters so that we do not put a premium on dishonesty and force the manufacturers to subsidize their riders. However, as I said before, this is a matter for the committee of fifteen to decide. I have chosen men to act on this committee who are representative men in the motorcycle industry, both in the trade and out of it, and I have no doubt that when this committee has completed its work, the F. A. M. Competition Rules will be considerably changed.

In my opinion, and I find it is the opinion of many intelligent men who know the conditions, the Editor of The Bicycling World and former President of the F. A. M. is on the wrong tack when he states that motorcycling is an athletic sport. It is a sport, to be sure, but it has very little connection with athletics. It is no more an athletic sport than yacht racing, chess or billiards. It requires very great skill to operate a motorcycle successfully in track racing, but it takes very little athletic training. In bicycle racing it is almost entirely a question of the man and not the machine. But it does not take an athlete to drive a motorcycle successfully on the track, any more than it takes an athlete to pilot an automobile or a yacht. Motorcycling is a sport, and a very enjoyable and important one, but in my opinion it is certainly not an athletic sport.

In the Bicycling World's issue of May 22d, I also read what was put forward as being an interview with Mr. Wehman, Secretary of the F. A. M. I regret that this matter has been brought into such prominence, for I hoped that the Secretary, after receiving my letters, would bring his accounts into such shape as would make any further investigation on my part unnecessary. But since he has seen fit to bring the matter into the limelight there remains but one course for me, namely, to state a few facts to substantiate the position which I have been obliged to assume. Suffice it to say that I was informed some time ago by our Treasurer that our Secretary, Mr. Wehman, was not forwarding the funds received for membership and renewals within fifteen days, as called for in the constitution. In view of the fact that the correspondence published herewith bears directly on this case and

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was written by an officer of the Federation, I feel that in justice to myself and to our membership at large, this correspondence should be made public. I have the original in Mr. Gibson's own handwriting and will be glad to exhibit it to any and all who are interested.

MR. GIBSON'S FIRST LETTER TO ME.

"Westboro, Mass.
March 22, 1909."

"E. L. Ovington,
"President, F. A. M.

"Dear Sir:

"In reply to your yesterday's note of inquiry, I will state a few facts, not commenting on Wehman's statement, but allowing you to form conclusions. On the 15th of March, 1909, I received from Secretary Wehman a check for $333, for 154 regular new members and 25 affiliated members. These memberships are dated June 27 to Oct. 19, 1908, and numbered from 1501 to 1679. On the 2d of Sept., 1908, I received $131 for renewals up to 19th July, 1908. Have received no renewal money since. I have not received any money, for new memberships since the 19th of October, 1908, or for renewals since the 19th of July, 1908. I have not received the money or statements of the $35 sent by G. H. Hamilton, of Indianapolis, the 16th of February, 1909, for affiliated members. On March 8th, 1909, W. F. Mann sent $80 (check to me) for memberships. I have not received any list, but the $80 check was included in the cash received for the list of members, June 27 to Oct. 19, 1908. W. F. Mann writes that he has seen membership card No. 2113, issued in Feb. 1909. My last membership number is 1679, showing that there are at least 434 memberships for which Secretary Wehman has the money; this takes no account of the renewals.

"Very truly yours,
(signed) "G. B. GIBSON, Treasurer."

"P. S. On Sept. 3d, 1908, I sent the Secretary a check for $1 as my renewal fee. I have never, as Treasurer, received back the money or the renewal statement to add to my books."

MR. GIBSON'S SECOND LETTER TO ME.

"Westboro, Mass.
"April 9, 1909.

"E. L. Ovington, President.

"Dear Sir:

"In reply to yours of yesterday, will say that I received a similar request from you March 20th, to which I replied on the 22d, and received an acknowledgment from your Mr. Grauert, date March 25th, stating that you were in Florida and that the correspondence would await your return. I state again the following facts:

"By referring to my quarterly report of 31st of March, 1909, you will see that I received, Jan. 18, 95 fees to June 27, 1908, $190; March 16, 154 regular and 25 affiliated fees up to October 19, 1908, $333. I have received no fees since October 19, 1908 (date). The last renewals were received September 2, 1908, up to July, 1908 (date). I renewed September 7, 1908. Have received no return of such.

"Have not received $35 sent by G. H. Hamilton, of Indianapolis, February 16, 1909. W. F. Mann sent to the Secretary $80, (check made out to me) for fees, March 9, 1909. Have not received these names, but $80 check was included in cash for list March 16, 1909. W. F. Mann has seen membership ticket No. 2113, last number I have received is No. 1679. These facts were stated in my letter to you March 22d. Very truly,

(Signed) "G. B. GIBSON, Treasurer."

MR. GIBSON'S THIRD LETTER TO ME.

"Westboro, Mass.,
"April 30, 1909.

"E. L. Ovington, President.

"Dear Sir:

"In reply to your note of inquiry, of April 29, asking about the laxness and delinquincy of Secretary Wehman, I will state that the same condition exists as at the time I last wrote you on this subject, per your request of April 9, 1909.

"The last new members I have received with remittances were on March 16, 1909, up to date of October 19, 1908.

"The last renewals received were on September 2, 1908 up to date of July 19, 1908.

"As per the above you will readily see that I have no official knowledge of the list of names and $22 you sent the Secretary on January 28, 1909.

"Something must be done or there'll be trouble at Indianapolis. I can make no more complete report without repetitions. The Secretary is six months in arrears in memberships and nine months in arrears in renewals.

"Guess this is enough from me. It's up to you as President.

"Very truly yours,
(signed) "G. B. GIBSON, Treasurer."

ONE OF MY LETTERS TO MR. WEHMAN.

"April 10, 1909.

"Mr. Henry Wehman,
"1201 Bedford avenue, Brooklyn, N. Y.

"Dear Sir:

"I have been informed by our Treasurer, Mr. Gibson, that you have not turned in promptly to him the money due for memberships. I have called this matter to your attention before, and refer you to the constitution wherein it states that the Secretary should send a remittance to the Treasurer not later than fifteen days on all moneys received. I realize that you are very busy, at the same time there is no reason why this matter should not be brought up to date. Will you kindly consider this promptly and incidentally let me have a reply to this letter advising me of the state of affairs, and if you have anything to say in connection with this matter.

"Very truly yours,
(Signed) "EARLE L. OVINGTON, President."

"P. S. As a friend, Henry, I tell you to get all monies up to date. There is some rather ugly talk around. I think I know you well enough to say this thus frankly.

"E. L. O."

MY FINAL LETTER TO MR. WEHMAN.

"May 21, 1909.

"Mr. Henry J. Wehman,
"1201 Bedford avenue, Brooklyn, N. Y.

"Dear Sir:

"As I have advised you before, our Treasurer, Mr. Gibson, informs me you are considerably behind hand in remitting to him funds received for F. A. M. memberships and renewals. I have also had this matter brought forcibly to my attention by several other parties.

"As you know, our constitution states that all such funds should be forwarded to the Treasurer within fifteen days from their receipt. As the President of our organization, I feel it my duty to see that our constitution is upheld. At the same time I realize that your business duties are such that perhaps you have not been able to devote the necessary time to this matter. On the other hand, you can readily see that such a state of affairs cannot be allowed to continue. I called you up on the 'phone and asked you to come over here in order that we might talk the matter over between us, but as you did not seem to care to do this, it will be necessary for me to take the matter up by correspondence.

"Under the circumstances, I feel it necessary to have an expert accountant audit your records, and in order that this may not be an inconvenience to you, I will wait until Tuesday, June 1st, before sending this accountant to your store to start his work. In the meantime will you kindly get your records into such shape as called for by our constitution and see that all remittances to date are forwarded to the Treasurer? In order that there may be no mistake as to the delivery of this letter, I am having it registered and witnessed.

"Very truly yours,
(Signed) "EARLE L. OVINGTON, President."

Now, di. I act rightly or wrongly? Was it not only after I was sure of the state of affairs that I took action? Did I not give the Secretary all of the chance in the world to make good? If the Secretary had been my own brother, I ask any intelligent man whether I could have acted otherwise. If I had not acted exactly as I did would not the trust which has been placed in me by my fellow motorcyclists have been misplaced?

Mr. Wehman states that when I sent him F. A. M. applications, I accompanied them with my personal I. O. U's, instead of the applicants' money. That is very true. Owing to the co-operation of Motorcycle Illustrated in publishing an advertisement in an effort to obtain F. A. M. members, it has been my fortune to receive quite a few F. A. M. applications. Sometimes I have received

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five or six in one day. As a rule, however, they come in one or two at a time. It would be very inconvenient for me, and it seems to me entirely unnecessary, to make out a check for one or two dollars every time an application arrived, for most of the applicants sent their checks payable to me. It has been my custom to take a small piece of paper and to make out an I. O. U. for the amount, placing on the I. O. U. the name of the member, and the date of the application. I forwarded these I. O. U.'s to the Secretary and at periodic intervals sent him the amounts of these I. O. U.'s. I now have the returned checks or vouchers from the bank. On the backs of these checks I was careful to put the names of the members whose applications the checks were in payment for. I have all this on file for those who care to see it. This system of sending I. O. U.'s was to avoid making out a large number of small checks. It should have facilitated rather than hindered the relations between us.

If there is no mystery about the F. A. M. membership roll, why is it that I had to write Mr. Wehman so many letters in order to obtain a copy? Mr. Wehman intimates that I wanted this membership roll for my own purposes. I have received hundreds of letters of inquiry regarding the F. A. M. and many F. A. M. applications have passed through my hands. The membership list is now in my possession and yet I defy any man who has ever written me or sent in his application to say that I have sent him a catalog of my machine or my specialties. I have a rubber stamp, and stamp in large red letters every bit of correspondence appertaining to the Federation, "F. A. M." I have a special basket on my desk in which this F. A. M. matter is filed and it never goes near our regular files, nor are the names transferred to our automatic addressing machine through which we do our circularizing.

Mr. Wehman further states: "If I were so minded I might find a lot of things that Ovington did not do either promptly, regularly or at all." I notice, however, that he was evidently not so minded to bring up these things, for he did not mention them in his interview with the Editor of the Bicycling World. Now, Mr. Wehman, you have made a threat. Make good. Publish all of those things that I did not do "either promptly, regularly, or at all."

Mr. Wehman intimates that I did not perform my duty properly for the F. A. M. 1908 Meet Club. For those who do not know it, I wish to say that I was not even an officer in this Club, and it was only in an effort to relieve my friend, Mr. Dessau, who was the Treasurer, that I undertook to have anything to do with it in an official capacity. On account of ill health, Mr. Dessau was forced to resign and instead of electing me as Treasurer in his place, which should have been done if they wanted me to take up his office, I was given a batch of records and asked to put them in some sort of shape. I did this and submitted my report as best I could with the matter in hand. The auditing committee at the last meeting of the Club went over my work and my accounts balanced to the last cent.

As far as the Western district of the F. A. M. is concerned—and which I acknowledge is wholly disorganized and has neither head nor tail—would say that I have done my best to appoint a vice-president for the Western District after the resignation of Mr. Ball. Owing to the disorganized state of the district, I have been unable to receive an official notification of the nominee for the office. My records prove what I say and they are open for inspection.

With regard to the F. A. M. emblem: On April 21st, I sent around a letter to the Executive Committee stating that no official copy of the F. A. M. emblem existed and that we could not obtain electrotypes for letter heads and advertising purposes. I stated that I had an artist make up an emblem and as long as we had to have an official copy made I suggested several improvements. I stated that the cylinder on the present emblem resembled a stove pipe with a Tam O'Shanter hat on top of it. In the new emblem I had this defect and several others remedied and submitted a copy of the new emblem to the Executive Committee for their approval.

Mr. Wehman asks: "Where did the Executive Committee obtain its authority for altering the design of the F. A. M. emblem?" Mr. Wehman should consult his constitution. This states that the management of the Federation shall be vested in the Executive Committee.

When asked if the Executive Committee gave its authority to change the official emblem, Mr. Wehman is quoted as saying, "You can search me. I don't think it has any such authority. I haven't voted at all." If your system were better, Mr. Wehman, you would keep a copy of your letters and it might be interesting to refer to your letter of April 30, in which you state: "Kindly accept this as my vote for the change in the F. A. M. emblem."

I have the letter over your own signature. Incidentally, it may interest our members at large to learn what some of the other members of the Executive Committee said with regard to the new emblem.

Treasurer Gibson says: "Hands up for the new F. A. M. emblem. It is a decided improvement."

Mr. E. L. Buffington, vice-president of the Eastern District, says: "I cast my vote in favor of the new cut as per copy enclosed in your letter. I would like one of the new electrotypes when they are ready."

Mr. E. Y. White, vice-president of the Southern District, says: "Yours of the 21st instant at hand, and I must say in reply to same that you have taken up a much needed matter in the right direction."

Mr. R. K. Holmes, vice-president of the Pacific District, says: "Yours of the 21st received. In regard to the F. A. M. emblem would say in reply that I think the new cut is much superior to the old one and I gladly cast my vote for the new one. I would be pleased to have one of the new electros as soon as they are finished."

Now gentlemen, you have the whole matter before you in black and white. My position, as President, is indeed a thankless one, but while I have held the office I have done my best to do my duty as I see it. I have dictated hundreds of letters in an effort to swell our membership list. I have spent hours and hours of valuable time on F. A. M. matters. I have incurred the enmity of hundreds with whom I might do business, simply because I felt it has been my duty to do and say certain things. This policy I shall pursue as long as I hold office.

Yes, I am in the trade. I have been in the trade since my active connection with motorcycling. I was in the trade when I was elected. As a matter of fact it was due very largely to the trade that I am now President; the trade element nominated, voted for and elected me. I did not seek the office nor had I the slightest idea when I entered the meeting room that when I left it I would be the F. A. M. chief executive. I do not flatter myself that I was elected because I was best fitted for the office, or for any personal reasons. The slogan of the majority present was "anything to get rid of the one man rule." Many of the assembled members openly expressed the opinion that this one man rule, which had dominated the F. A. M. since its foundation, was largely accountable for the stagnation and lack of normal growth in the national organization.

I have been attacked on all sides and there are certain individuals who have taken it as their moral duty to criticize adversely every move I have made. They do not realize that it is an utter impossibility to please all. They give me no credit for a single unselfish motive. Instead of jumping into affairs and putting a shoulder to the wheel they sit back and —just talk. They tell how it should be done, instead of coming out like men and help do it. Whatever has been said against my administration—it cannot be denied that the F. A. M. has come out of its lethargy. It is no longer a "dead one." More new members have come in this year, by far, than any previous year. Motorcycle clubs all over the country are coming in as affiliated clubs. The automobile powers-that-be have come to acknowledge that the humble motorcyclist is to be reckoned with. Europe has been made to realize that such an organization as the F. A. M. exists. "One man rule" has gone forever from the F. A. M. and from now on the F. A. M. will truly be what it has always claimed to be, the national organization of motorcyclists. All this publicity and bringing matters into the lime light has its advantages. It will cleanse the F. A. M. of the last vestige of cliqueism. It may temporarily retard growth and lessen confidence, but ultimately the F. A. M. will spring forward with renewed life and take the prominent position in American motorcycling affairs which is its just due.

Very truly yours,
EARLE L. OVINGTON.

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AN ANALYSIS OF RUNNING CONDITIONS

OFTEN, on a long trip, extending throughout a whole day, it is particularly noticeable how the "life" and pull of an engine is wonderfully increased towards nightfall. There is no known factor whereby to determine the exact heat of the cylinder walls at which an air-cooled engine will run best; in fact, it can be clearly seen that, in view of great variations of bore and stroke and cubic capacity, this temperature would be variable. Again, although efficient cooling may have a little to do with the question, an automobile, whether cooled by the thermo syphon system or pump circulation, shows exactly the same symptoms at nightfall.

The theory has been advanced that the damper atmosphere makes for more effective carburation on account of the presence of hydrogen-charged air; yet we have to prove that a proportion of hydrogen in the charge of a mixture will definitely cause any appreciable increase of power. Experiments have been made on the subject by motor engineers even to the extent of admitting a certain amount of water into the cylinder. Only a minority of the experimenting number declared that there was any material efficiency to be gained thereby. Obviously, the question of perfect carburation has something to do with the matter, but, as to the cooling contention, the most feasible solution would be found in the more uniform temperature of the cylinder walls and the combustion head.

It is plain that an air-cooled cylinder must be hotter in some places than in others, for the simple reason that the air draught is impinged on the forward portion, and circulates more or less effectively round the sides to the rear, which is sheltered. Even the thinnest of radiating flanges cannot carry off the heat evenly, although thin flanges help matters considerably. Therefore, this uneven distribution of heat must produce distortion temporarily and, when the balance is evenly distributed, better running results are secured.

Yet we find from practical application that a cylinder, when cold, does not give off as much power as one which is warm. Thus, before a speed contest or a hill climb we see competitors "warming up" their engines, so as to be able to start off with the engine giving off its maximum power. With the aid of two expert time keepers we have given this matter a practical test up a long hill, finishing with a steep pitch. When the engine was warm, the time, in every case, that is, in six trials, was over ten per cent better than when the engine was cold.

Again, a fact which is most noticeable in ordinary riding is that immediately after starting on a ride, with the engine quite cold, it will begin to pull with unusual vigor, but for a short time only. Then the power seems to fall off slightly, and occasionally the air intake has to be shut down a shade and a little more gas given to the mixture. Then the engine pulls faster and increases in pace until the throttle is moved back to the last notches, and even then the power remains normal. The time taken for an engine to work up to its highest state of efficiency, judging from observation, seems to be generally about half an hour after the start. This, of course, only applies when the throttle is kept at normal. Looking at the schedule of times for each mile in an hour record run we find, as a general rule, that the first twenty miles are the fastest. A dead cold engine occasionally gives off abnormal power for a short while, mainly because the compression space is then filled with air instead of burnt gas, as no poppet valve type of engine gives complete scavenging results. Again, it may be argued that the net weight of gas taken in is greater than when the cylinder walls are hot. Although, undoubtedly, there steps in the question of serious heat losses from the exploded charge to the cylinder walls; but the extra weight of the charge more than compensates for these.

With the diminution of power, it will be seen that the carbureter and inlet pipe being cold, perfect atomizing or breaking up of the sprayed gasoline does not occur, and there is also a tendency to have condensation take place in the inlet pipe. Hence a weak mixture is drawn into the cylinder, giving off little power or misfiring. Meanwhile, the cylinder walls rapidly increase in temperature, the charges are receiving heat which increases the compression and there is a decreasing flow of heat from the ignited charge to the cylinder walls; the maximum pressure when developed is higher than before, and greater force is applied to the piston. The heat from the cylinder is meanwhile being conducted along the inlet pipe, the condensation of the gasoline gradually stops and the carbureter is sucking warmer air. This means that a greater weight of gasoline is passing into the cylinder, as finely atomized particles intimately mixed with air. In simple terms, as we apply them, the engine is now getting a "good mixture." The engine itself is working easier, once it has become thoroughly and uniformly "warmed up;" all frictional surfaces are operating in the best condition and, it may be added, the lubricating oil has become more fluid, and thus free from any "gumming" action, while the piston rings are working freely, thus ensuring good compression. With all these factors taken into consideration, it is not difficult to find reasons why an engine improves in power after it has become thoroughly warmed up.

ILLINOIS PHYSICIAN COMMENDS THE UTILITY AND MODERATE COST OF THE MOTORCYCLE

A RECENT account in Motorcycle Illustrated, of a physician's experience with a motorcycle in his practice, and your editorial comment thereon, prompt me to "speak out in meeting" and give my "testimony."

In the fall of 1908 I purchased a 3½-h. 1908 model machine of standard make and have run it since then, whenever possible during the autumn and this spring, over the roughest roads, covering 1125 miles in that time. I find the little machine to be an efficient, dependable steed, always ready for work when given proper care and attention. It has always come home with its own power. On one occasion, however, when stranded out in the country, four miles from a drop of gasoline, with none in the tank, it very nearly gave up the ghost; but a happy thought prompted me to purchase a quart of kerosene, which I poured into the tank before the engine had cooled off, and came home without any difficulty.

As I care for the machine myself the operating expense is very small, in my case amounting to $6.80. I know of no efficient means of transportation that, with a small initial investment, can be so cheaply furnished. In usefulness and in economy of operation the little machine has exceeded my expectations.

Yours truly,

Good Hope, Ill. W. M. HARTMAN .

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They All Use Indianapol

Long Distance and
Local Phones
New 4181
Old Main 5027

The G. H. Westing Company

WHOLESALE AND RETAIL
BICYCLES, BICYCLE SUNDRIES
MOTORCYCLES, SPORTING AND
ATHLETIC GOODS, CANOES, Etc.

219-221 Massachusetts Avenue
116 East Ohio Street

Indianapolis, Ind. May 26th 190 9

G & J Tire Company,

Indianapolis, Ind.

Gentlemen:

We are sending you under separate cover a photograph of our motorcycle riders who went on the Indian run on May 16th One of the most pleasant features of the run was the entire absence of tire trouble, and it might interest you to know that every one of the forty-one machines were equipped with Indianapolis G & J Tires. Considering that the length of this run was seventy-two miles, we think your tires made an excellent showing.

We are specifying Indianapolis on all of our Indian Motorcycles and are pleased to advise you that we do not know what it is to have complaints on tires.

Wishing you continued success, we remain

Yours very truly,

RHS/GHW.

The G. H. Westing Co.

G. H. Westing
Pres. & Treas.

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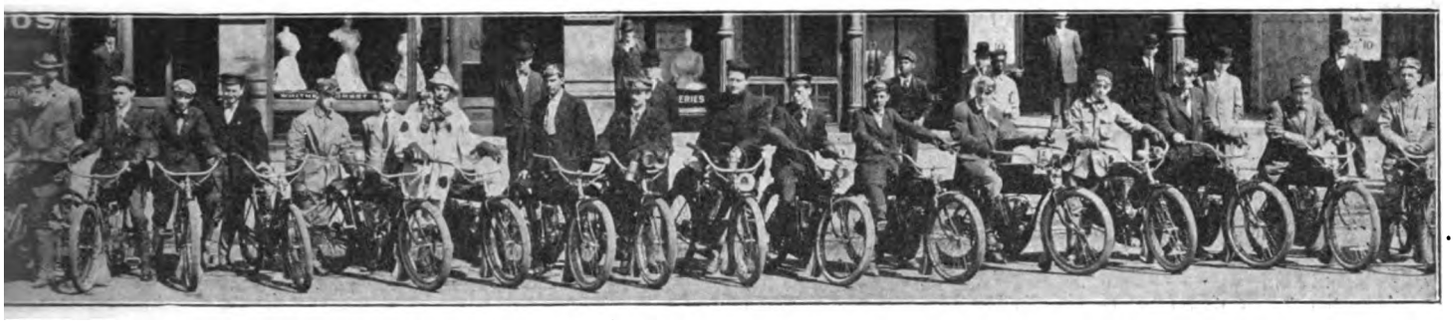

G & J Motorcycle Tires

DO YOU KNOW WHY?

If you ever go on a long run over country roads and have tire trouble you will then appreciate what good tire service really means.

Experienced riders don't pay so much attention to the first cost if the tires only give satisfactory service.

Indianapolis G & J motorcycle tires do cost a little more than others, but if you will keep a record of the service they give, you will find they cost the least per mile of any motorcycle tires on the market.

When you start for somewhere you can depend on getting there and back without being held up on account of tire troubles. You can ride as fast as you like over any kind of roads without any fear of your tires giving way. There's no danger of their pulling or rolling off the rim if you should happen to skid or turn a corner at high speed.

You can have your new machine equipped with Indianapolis G & J motorcycle tires if you say the word. Any of the manufacturers will gladly supply them without extra cost or delay in shipment.

Write us for catalog and prices.

G & J Tire Co.

Indianapolis, Minn.

Kansas City	Los Angeles	Boston	Minneapolis	New York	Buffalo
Cleveland	Atlanta	Portland	Detroit	San Francisco	Philadelphia
Pittsburg	St. Louis	Omaha	Chicago	Denver	Toledo, O.

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WITH THE CLUBS

SAN FRANCISCO.—The local club has taken a decided stand against fast road racing, believing that it is not to the best interests of the sport to have members racing over the public highways at break neck speed.

The following have lately been elected to membership: E. Seiman, C. C. Stanley, W. H. Seiman, C. Rayston, H. Robinson, E. Robin, O. L. Phillipps, S. O'Brien, C. O'Brien, G. Malstead, M. Lousten, S. L. Lesser, M. E. Kern, F. Ernst, G. Dawson, L. C. Dakin, Floyd Townsend, L. Chamberlain.

The club has also expressed itself as being in favor of the extension of good roads. It has unanimously voted to actively co-operate with the Automobile Association of California. Mr. A. W. Green, vice-president, has opened a subscription list which has been heartily supported by the members.

The club has also voted to enter, as a body, the ranks of the Federation of the American Motorcyclists. This organization has done much for the benefit of motorcyclists throughout the country and it is expected that shortly a representative of the National Association will be located in this city.

CINCINNATI, Ohio.—Under the auspices of the Queen City Motorcycle Club and the National Turnfest, a race meet will be held on the 23rd instant. The events will be as follows: Two mile, under 20 cubic inches; three mile, under 50 cubic inches; pursuit race, 15 mile limit; five mile open; three mile, under 30½ cubic inches; ten mile handicap; marathon distance; pursuit race, under 61 cubic inches, unlimited distance; slow race; side car exhibition, one mile, lady accompanying. The track is two laps to the mile and participants will be limited to members of the Cincinnati clubs. Medals and cups will be offered as prizes for each event.

HARTFORD, Conn.—The new president of this club is A. E. Brown, The other officers are as follows: Vice-president, Willis L. Hayes; secretary and treasurer, George W. Baker; board of directors, the officers, T. C. Foster, George H. Thrall, Daniel B. Westin; road officers, captain, George S. Maslen; first lieutenant, Charles M. Carlson; second lieutenant, Bernard Biederman; standard bearer, Gilbert A. Finch; historian, T. C. Foster; photographer, E. E. Benson.

LA SALLE, Ill.—The motorcyclists of La Salle and nearby cities have just organized the Illinois Valley Motorcycle Club. Much enthusiasm was shown at the club's formation and it was decided to join the F. A. M. as a body. The officers are as follows: President, Chas. Swegar; vice-president, Gene Neustadt; secretary-treasurer, A. B. Porter; press agent, Will Russell. A trip to Indianapolis during the convention of the F. A. M. is contemplated by several members.

JAMESTOWN, N. Y.—Among the Decoration Day visitors in Jamestown were nine members of the Thor Motorcycle Club, of Buffalo, who came in on motorcycles, covering the distance in three hours. The party was composed of William Cloudsley, Lewis Ulrich, W. E. Nevius, A. C. Johncahl, Millard Cornwall, W. Anstedt, Harold Alderman, D. W. Peterson and Harry Tallman. All of them rode up the Windsor street hill from Second to Falconer street in this city, a feat that is rarely attempted on a motorcycle.

DAYTON, Ohio.—The local club, encouraged by the success of its Decoration Day events, will hold another big race meet at the Fair Grounds on Saturday afternoon, June 19th. Among the events there will be a special three-cornered match race between Harry Gross, Charles Butler and Harry Nixon, riding a Thor, Excelsior and Indian respectively.

DANVILLE, Ill.—The local club is making arrangements to hold a series of races on July 5th. Among the big events will be either a fifteen or twenty-five mile competition. The problem of laying out the two courses is in charge of A. C. Byerly and, as soon as possible, the club will decide which one is to be used.

ROCHESTER, N. Y.—A club has just been organized here with the following officers: President, Dr. H. P. Lewis; vice-president, H. Higbee, secretary and treasurer, Emil Fournaise. Rules have been adopted prohibiting the use of open mufflers and providing penalties for excessive speeding.

YOUNGSTOWN, OHIO.—The Mahoning Motorcycle Club has been organized here with the following officers: President, J. R. Truesdale; treasurer, George D. Wick; captain, Lewis A. Morley; lieutenant, Max M. Reese.

BROCKTON, Mass.—The local club made a run to Plymouth a week ago Sunday, while a number of the members went to Worcester last Saturday to witness the hill climbing contest on Dead Horse Hill.

SALT LAKE CITY, Utah.—Local riders have organized a club, and elected the following officers: P. R. Ruder, president; E. B. Heagren, vice-president; C. W. Brewer, secretary and treasurer, and D. M. Lemen, captain.

RACINE, Wis.—Walter Newman is president, Charles Hansen, secretary, and James Nelson, treasurer of the Racine Motorcycle Club, just organized here. The club's headquarters are at 18 and 19 Wisconsin street.

COLORADO SPRINGS, Colo.—A club has just been organized here with the following officers: President, W. B. Glasser; vice-president, P. F. Hartman; secretary, Walter Husung; treasurer, Bob Sims.

AKRON, Ohio.—About forty riders participated in the opening of the Cleveland Motorcycle Club's touring season. They came to this city a week ago Sunday and spent the afternoon riding about the lakes near here.

RICHMOND, Va.—The Richmond Motorcycle Club held its first Sunday run on the 6th instant. Small outings will be enjoyed by the club members throughout the balance of the season.

BALTIMORE, MD.—The local club celebrated the holiday by making a run to Washington, where the members were royally entertained by the Capital City motorcyclists.

PASADENA.—A committee of the local club is looking for a house, convenient to the center of the city, to be fitted up as club headquarters.

BEDFORD, Ind.—A club is now in the process of formation in this city, which boasts of a number of enthusiastic riders.

PATERSON, N. J.—The North Jersey Motorcycle Club held a run to New Brunswick and return last Saturday afternoon.

E. FRIES has just been elected to the presidency of the Milwaukee Club.

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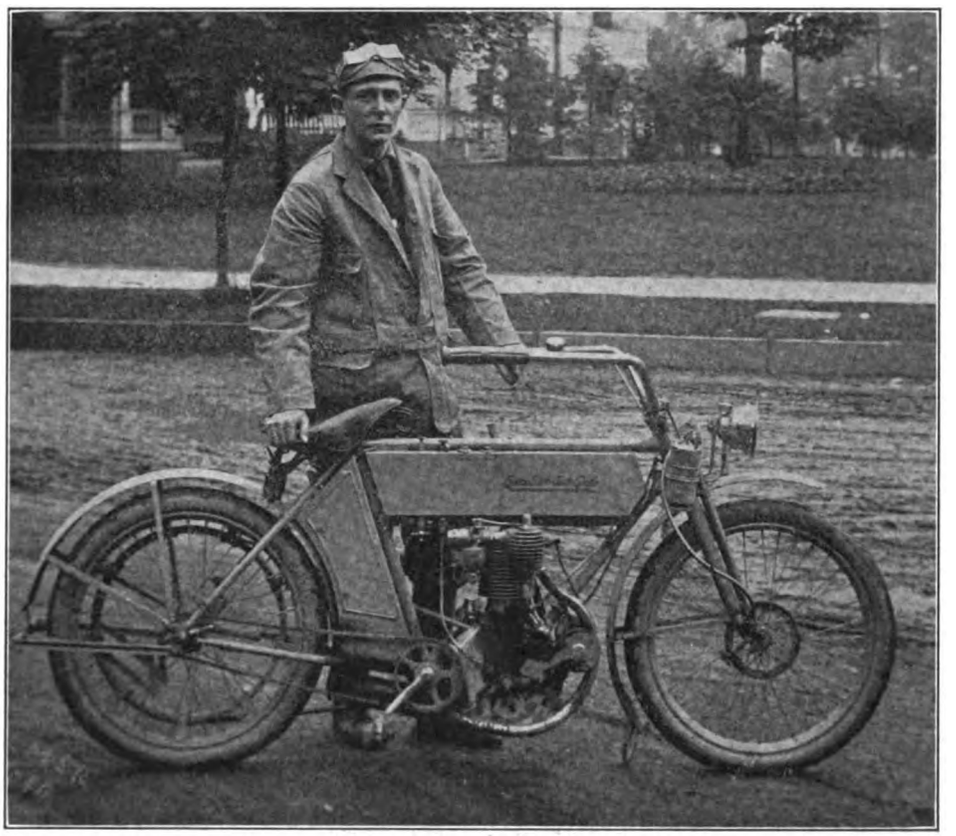
SOME RECENT CONTESTS WHEREIN THE

Excelsior Auto-Cycle Made Good

New Jersey Motor-Cycle Club Reliability Run



Kenneth E. Moore won Perfect Score Medal and Special Cup for Consistency

LOS ANGELES--SAN DIEGO RELIABILITY RUN, The most scvere of the year.

E. L. Parmelee and C. E. Anderson won Perfect Scores. R. M. Brinckerhoff finished on the minute, but was penalized 18 points for adjusting a vibrator spring. Only 16 out of 39 starters got in at all, and only three others with perfect scores.

DANVILLE MOTOR CYCLE CLUB HILL CLIMB, June 9, in 30:50 class the results were:

H. E. Richardson, EXCELSIOR, 26 3-5 sec. Paul Moore, EXCELSIOR, 32 2-5 sec.
Carl Stahl, EXCELSIOR, 33 1-5 sec. Chubbeck, Yale, 38 sec.
Evans, R.-S., 44 sec. Tormey, Thor, 44 4-5 sec.

Richardson was allowed to ride his 30.50 single cylinder EXCELSIOR in the 61 class against twins of twice the rated power and was beaten by only 3 2-5 seconds, beating one 7 H. P. twin by 1 2-5 seconds, but was afterward protested for late entry.

Thus does EXCELSIOR QUALITY ALWAYS MAKE GOOD

Our new art catalog M. C. 259 is just out. Write for it.

EXCELSIOR SUPPLY COMPANY

Established 1876 **233-237 Randolph Street, Chicago, Ill.**

Where You Can See and be Shown The EXCELSIOR AUTO-CYCLE

STANLEY T. KELLOGG. Eastern Distributor 2233 Broadway, N.Y.

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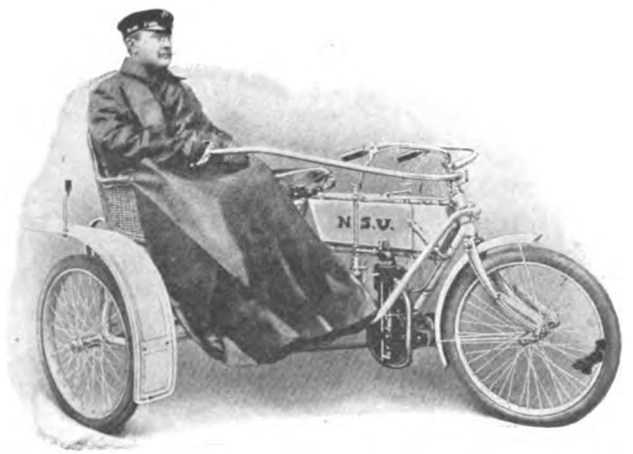
OVER 100 NAMES OF MACHINES

HEREWITH is a list of over one hundred names of machines. They are furnished by L. L. Carringer, of San Diego, Cal., and include most of the old as well as all the present day two-wheelers. Readers of Motorcycle Illustrated are invited to make additions or corrections to the best of their ability:

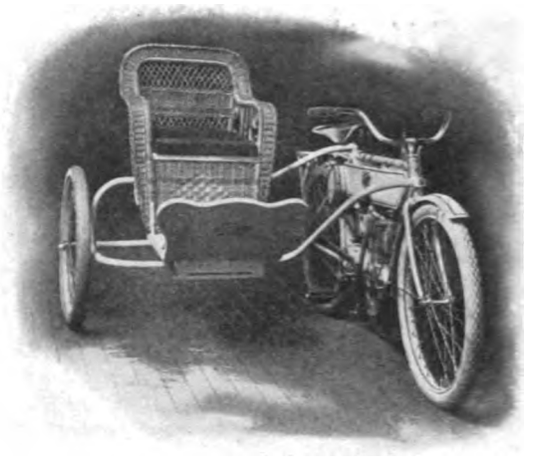
Advance.	Holley Auto-Bike.	Pioneer.
Alcyon.	Humber.	Puch.
American.	Indian.	Racycle.
Arielette.	James.	Rambler.
Armac.	Jap.	Reliance.
Apache.	Jehle.	Rex.
Auto-Bi.	Lagonda.	Rexette.
Barnes.	Lazarus.	Rex Litette.
Bat.	Light.	Riley.
Bradley.	Linden.	Roc.
Brannabor.	L. M. C.	Rover.
Buchet.	Lourin.	Royal.
California.	Magnet.	Royal Pioneer.
Clement.	Manson.	R-S.
Comet.	Marsh.	Sarolea.
Crouch.	Matchless.	Sharp.
Curtiss.	Merkel.	Simplex.
Douglas.	Metz.	Singer.
Durkopp.	Midget Bi-Car.	Styria.
Emblem.	Minerva.	Thiem.
Erie.	Minneapolis.	Thomas.
Excelsior.	Mitchell.	Thomas Auto-Bi.
Feilback.	M. M.	Thor.
F. N.	Moto-Reve.	Thoroughbred.
Goricke.	Motosacoche.	Tourist Trophy.
Green-Egg.	NewEraAutoCycle	Torpedo.
Greyhound.	N. S. U.	Triumph.
Griffon.	Orient.	Vindec.
Guarantee.	Peugeot.	Wagner.
Harley-Davidson.	Phalon & Moore.	Wanderer.
Harry R. Geer.	Phanomen.	Webster.
H. H.	Phanomobil.	Yale.
Hilaman.	Phoenix Trimo.	Zenette.
Hornecker.	Pierce.	

THE N. S. U. side car, illustrated herewith, possesses a novelty all its own in its steering attachment, by which the owners of these delightful attachments may recline comfortably in their side cars and run their motorcycles with all the comforts of an auto. If the steering attachment be incorporated with the two speed gear on the motorcycle, an ideal vehicle may be obtained for then the hazardous jump into the side car when starting becomes quite unnecessary: one starts his engine by one push of the pedal and then seats himself in the side car, swings in the clutch and rides gracefully away.

Detroit, Mich.—William E. Metzger, who carries the Yale, Excelsior, Indian and Pierce, is occupying new premises at the corner of Woodward and High Streets.



N. S. U. Side Car Steering Attachment



Minneapolis Two-Speed, with Side Car

The following letter from the American Consul, at Santiago de Cuba, is self-explanatory:

"In reply to your inquiry of the fourth instant I have to state that there are only two or three motorcycles in this city. It is not improbable that an active agent sent through the larger towns of the Island with a sample machine of moderate price and simple mechanism might be able to secure considerable trade in this line.

"I have pleasure in giving you below the names of such firms, in this city, as in my opinion would be most likely to favorably consider accepting an agency for sale of motorcycles in this territory: J. Francoli y Ca.; Valls, Ribera y Ca., I Domingo y Ca."

Says the Washington, D. C., Times:—"Washington business men are beginning to appreciate the fact that motorcycles are an excellent aid in their delivery service, and every week finds one or more merchants investing in them. Hahn & Co., shoe dealers, have had a motorcycle delivery service for some time and are getting good results. Other prominent firms which have adopted the same idea with the same satisfactory results are George W. Knox & Co., James B. Lambie & Co., R. T. Wickline, Chesapeake and Potomac Telephone Company, and the White Cross Milk Company."

At the invitation of several students of the scientific classes at Chicago University, Ira H. Whipple, the pioneer motorcycle enthusiast of the Chicago colony, recently gave a demonstration on the campus, showing the mechanical differences of single-cylinder, twin-cylinder and four-cylinder machines. He expressed himself as astonished at the scope of the questions put to him by the students, several of whom use motorcycles in going to and from their classes.

The 7-h. N. S. U. machines, which have lately been accredited with several world's records, were shod with the celebrated Peter Union Tires. These tires are exceptionally fast and resilient. They are made in numerous treads and in all sizes, and are fully illustrated and explained in a special booklet, sent on request by the N. S. U. Motor Co., 206 West 76th street, New York.

The prizes offered by the G. & J. Tire Co. for the best advertisements of G. & J. motorcycle tires have been awarded as follows: First, $25, F. C. Schneerer, Norwalk, Ohio; second, $15, A. L. Alexander, Pittsburg, Pa.; third, $10, A. Litsey, Bardstown, Ky.

The Empire Tire Company, of Trenton, N. J., is now producing asbestos brake liners. These are sold in widths varying from one to four inches, and in thickness they are 1-8, 5-32, 3-16 and 1-4 inches.

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Empire Tires
WEAR LONGEST

Newark—264 Halsey St. Detroit—842 Woodward Ave. **BRANCHES.** Boston—292 Devonshire St. Chicago—20 La Salle St.
Chicago—1301 Michigan Ave. New York—73d St. & Broadway. New York—148 Chambers St.

AGENCIES.

Atlanta, Ga., Dunham Rubber Co.; Atlantic City, N. J., Penn Auto Supply Co.; Boise, Idaho, Randall Dodd Auto Co.; Buffalo, N. Y., Empire Sales Co.; Cleveland, O., Motor Supply Agency Co.; Denver, Col., Denver Auto Goods Co.; Dallas, Tex., Munger Auto Co.; Jacksonville, Fla., Savell Rubber Co.; Los Angeles, Cal., Empire Tire and Rubber Co.; Minneapolis, Minn., Empire Tire and Rubber Co.; New Orleans, La., H. A. Testard; Norfolk, Va., Wm. H. Grover; Philadelphia, Pa., Penn Auto Supply Co.; Pittsburg, Pa., Consumers' Auto Supply Co.; Portland, Me., James Bailey Co.; Providence, R. I., Waite Auto Supply Co.; St. Louis, Mo., Gorman Bros.; Savannah, Ga., Harris Tire Co.; Syracuse, N. Y., Central City Rubber Co.; Toledo, Ohio, W. G. Nagel Electric Co.

MOTORCYCLE MART—IT SELLS THE STUFF

Buy; Sell; Exchange. Two Cents a Word. Cash With Copy

FOR SALE OR EXCHANGE

FOR SALE—'09 N. S. U. Twin Motorcycle, F. A. M. Model, white enamel, Brooks saddle; run about 100 miles. H. Darling, 345 Olive St., Kansas City, Mo.

WANTED—Indian Tricar, full particulars to G. A. Hanwell, Crafton, Pa.

FOR SALE OR EXCHANGE—Oldsmobile Runabout, in good condition; $250 cash, or might consider trade for a 1909 model double cylinder Indian or for a double cylinder 1909 model M. M. Special motorcycle. E. O. Sloulin, Viola, Richland County, Wis.

FOR SALE—1909 loop frame magneto twin Indian, new; $200; 1908 twin Indian, $125. Fred Lloyd, McKeesport, Pa.

FOR BARGAINS in second hand motorcycles, Merkels, Indians and M. M., call at the M. M. Motorcycle store, 38 Belleville Ave., Newark, N. J.

FOR SALE—1909 M. M., 3½-h. Special; run 110 miles; Bailey tread tires, horn, lamp, cyclometer and all kinds of tools; also repair outfit; puttee leggings, gauntlets and leather coat. Outfit cost $225, will sell for $180. Menzo K. Miller, Van Hornesville, N. Y.

EXHAUST WHISTLES and hand idlers for M. M. motorcycles. French, 895 Main St., Buffalo, N. Y.

AGENTS CARDS, ETC.

WELCOME, Motorcyclists! When in Cincinnati you are one and all invited to make our place your headquarters. You will be heartily welcome. Special room fitted with every convenience for the tourist. Milton Motorcycle Co., dealers in Motorcycles and Accessories, 1003-5-7 Race street, between Canal and Court streets, Cincinnati, Ohio. 'Phone, Canal, 233.

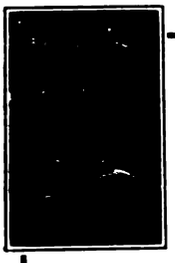
FOR SALE—N. S. U. 3½-h. p. Road Racer, with 2 speed gear, run less than 500 miles, bargain, $185; N. S. U. 6-h. p. Twin, 2 speed, $195; 2 cylinder '08 Indian, $150; Indian 2¼-h. p., $80; other fine bargains. Stanley Kellogg, Eastern Distributor Excelsior Autocycles, 2334 Broadway, New York.

MOTORCYCLES—35 second hand machines on hand, all makes; $40 up. Send stamp for illustrated circular describing them. Tiger Cycle Works Co., 782 Eighth avenue, New York City.

MOTORCYCLES thoroughly overhauled and repaired. Agents for Thor motorcycles, parts and sundries. Brazenor & Ruderman, 849 Bedford avenue, Brooklyn, N. Y

ACCESSORIES at prices that will surprise you; send for our large catalogue. Motorcycle Equipment Co., Hammondsport, N. Y.

M-M AND R-S MOTORCYCLES—East End Cycle Co., Highland & Beitler, near Centre Ave., Pittsburg. Pa.



B. & C.

Two Speed and Free Engine Gear

Easily attached to any chain-driven motorcycle of the countershaft type. Puts your mount in the up-to-date class without remodeling. Fifty per cent. reduction from the normal speed, or free engine, at the will of rider.

One lever only. Starts from slow speed without jolt or jar. The ideal equipment for a tricar. Write for particulars. You will be interested, pleasantly surprised. So write to-day.

BUSHNELL & CANNON, 1268 E. 80th Pl., Cleveland, O.

A FIVE YEAR GUARANTEE

On all PFANSTIEHL MOTORCYCLE COILS

The Leading coil. Standard equipment with discriminating Manufacturers. Reasonable prices

Reply DEPT. 8

PFAN TIEHL ELECTRICAL LABORATORY, North Chicago, Ill.

"K&R" CONVERSION SETS FOR ANY MAKE OF MOTOR-CYCLE

NEW 20 PAGE CATALOG NOW READY

KELLER & RISQUE, ST. PAUL, MINN.

Kindly always mention the paper when writing advertisers

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MOTORCYCLE FIRE-FIGHTERS NOW

The Auto-Bi Company, of Buffalo, makers of the Greyhound motorcycle, are developing the possibilities of the motorcycle along various lines, one of the most interesting of which is the adaptation of its use as a means of delivering efficient apparatus and a skilled operator at a fire in a hurry.

As shown by the illustration, the extinguishers are mounted in spring brackets on each side of the rear wheel in such a way as to be instantly released by throwing a cam lever, enabling the operator to snatch them out quickly. The machine is equipped with an automatic stand which takes care of itself when the machine is pushed off, and with a loud voiced alarm bell for the purpose of warning traffic.

For several weeks past a man and the machine have been stationed at Chemical house No. 5, in Cleveland avenue, Buffalo, responding not only to alarms from the district covered by Chemical No. 5, but to nearly all other alarms in the city. In the most of cases, irrespective of distances, the Greyhound machine has arrived before the department apparatus, and in several cases W. C. Chadeayne, who is in charge of the machine, has "killed" the fire before the regular department could get into action.

The Auto-Bi people are naturally enthusiastic over such a showing. In view of the fact that the extra weight carried is very considerable, and the use about as hard as could be devised, it would seem a sure thing that the regular Greyhound construction is more than equal to all legitimate requirements.

Incidentally it may be said, that a large measure of credit is due to the Greyhound shock absorber, which, by its cushioning action, saves both rider and machine from the effect of the shocks and bumps of the road.

The Royal Motor Works, Worcester, Mass., which for some time has been using the imported Watawata leather V-belt, has secured the American agency for that accessory, and appointed the Majestic Mfg. Company, of Worcester, as distributors.

LET THE MOTOR DO THE WORK

A MOTORCYCLE can be made quickly FROM ANY BICYCLE by using our 2 H.P. Motor Outfit. Unequalled for POWER, SPEED and RELIABILITY. Anyone can easily attach our Outfit by following the directions we send with each Attachment. Best material and workmanship.

FULLY GUARANTEED

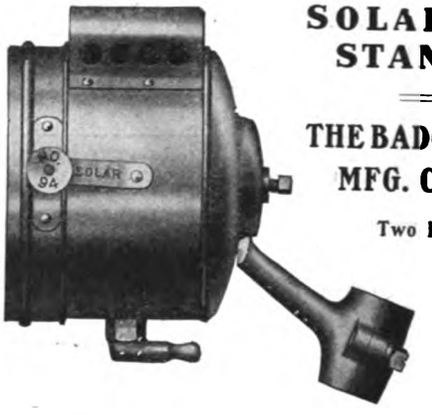
Immediate delivery. Send for Catalog B.

Shaw Mfg. Co.
Galesburg, Kansas

Solar QUALITY

Solar Lamps—SHOW THE WAY

There is quality in Solar Lamps. Every piece of brass used has been selected for its special purpose. The nickel finish on Solars is the kind that doesn't curl up on the edges and rub off. Above all, there is quality in the Lens Mirror we use; you secure the best there is—the Bausch & Lomb. Other lamps are judged by Solars.



SOLARS ARE STANDARD

THE BADGER BRASS MFG. COMPANY

Two **Factories:**

KENOSHA, WIS.

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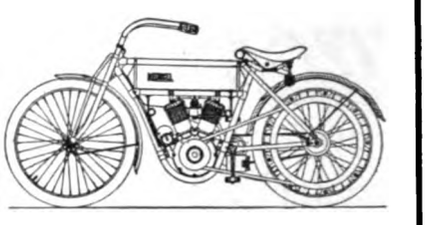
1909



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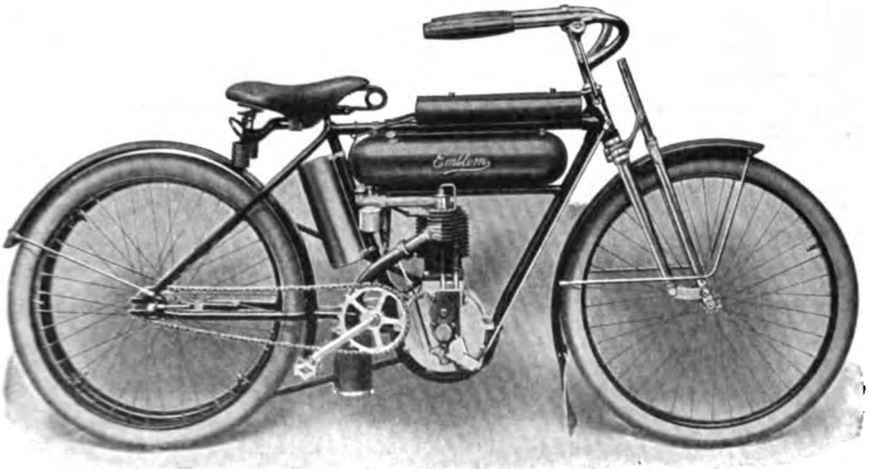

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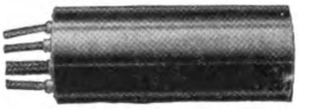

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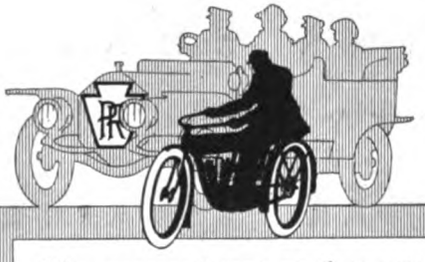

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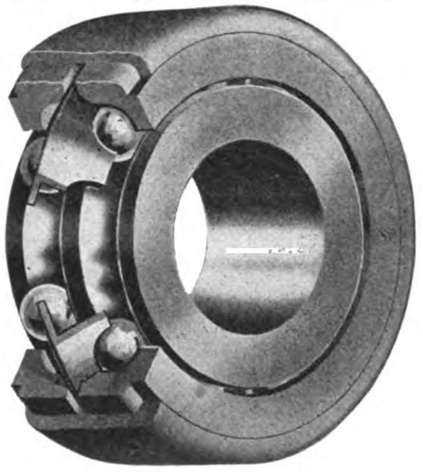

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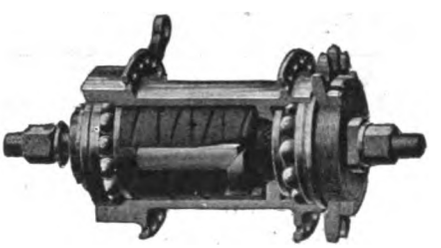

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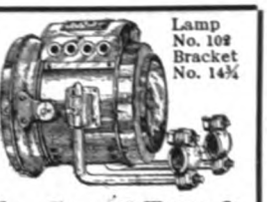

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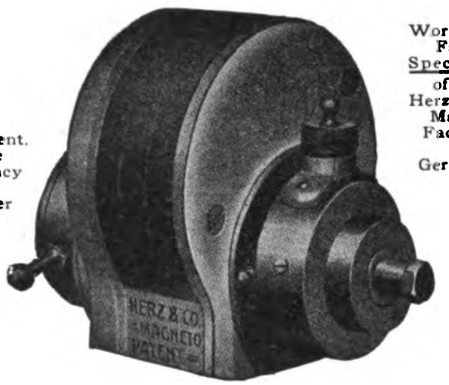

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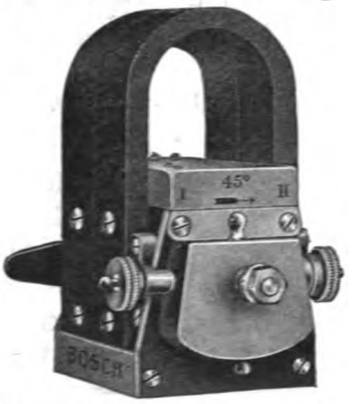

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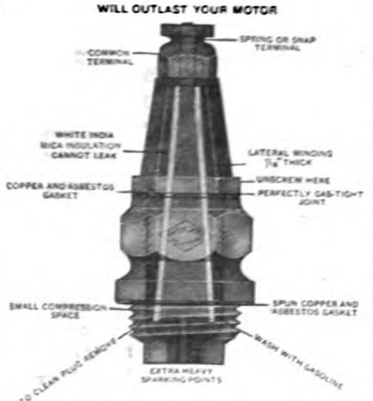

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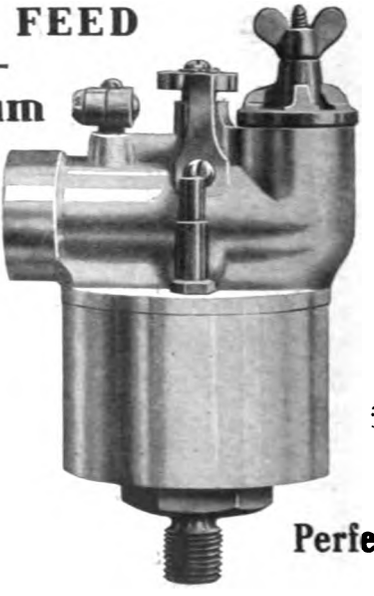

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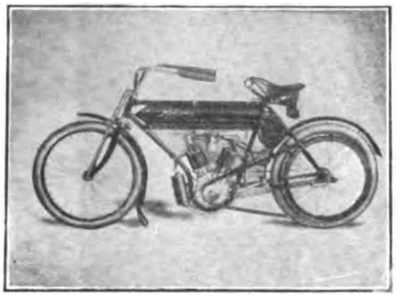

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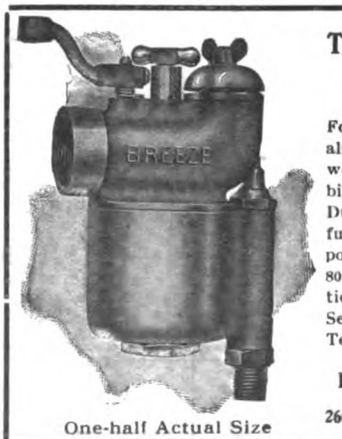

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¶ Immediate delivery in all new models.
¶ Bargains in 2nd hand machines.
¶ Supplies and accessories at prices that are right. Repairs promptly and effect-

MOTORCYCLES IN STOCK
3½ H. P. Single Cylinders
WITH BOSCH MAGNETO, $225
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C. O. T. Gum Gum. Ask your dealer how nicely it repairs digouts in your auto shoe. For sale by jobbers. CHAS. O. TINGLEY & CO., Rahway, N. J.

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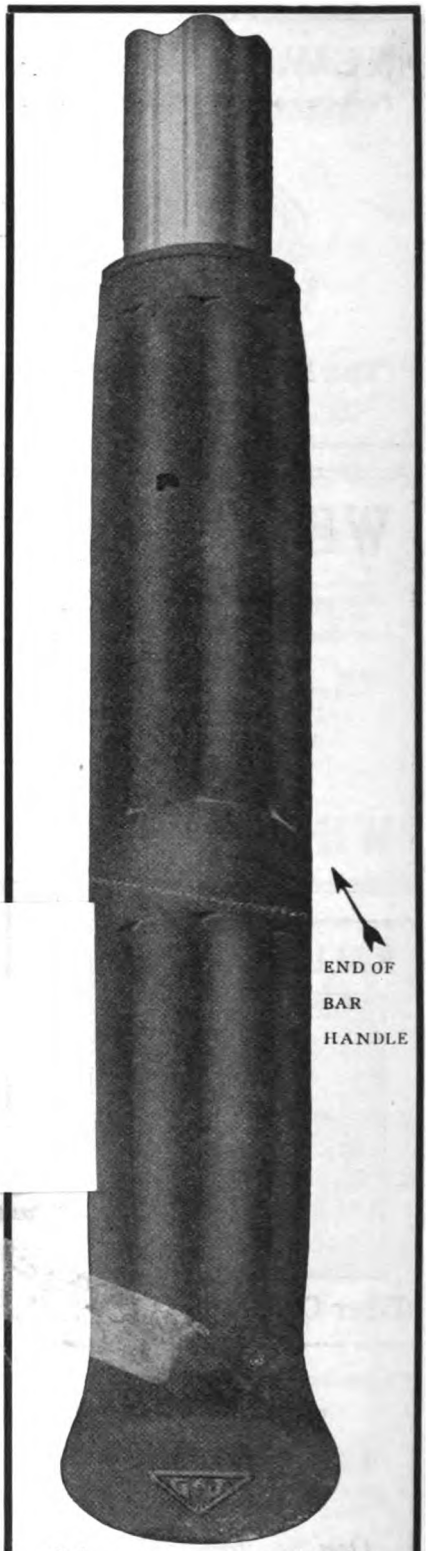
If you or your friends or your friend's friends are interested in the latest and best improved Motorcycles, regardless of how highly you regard other makes—do not purchase a Motorcycle until you have written us for Our Latest Catalogue describing in detail, all about Our New and Original Models. Best Agent Proposition to Date.
THIEM MANUFACTURING COMPANY
BOX 498, MINNEAPOLIS, MINN.



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G & J ROUGH-RIDER GRIPS
Made of Rubber
They relieve the vibration
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For Sale by All Dealers
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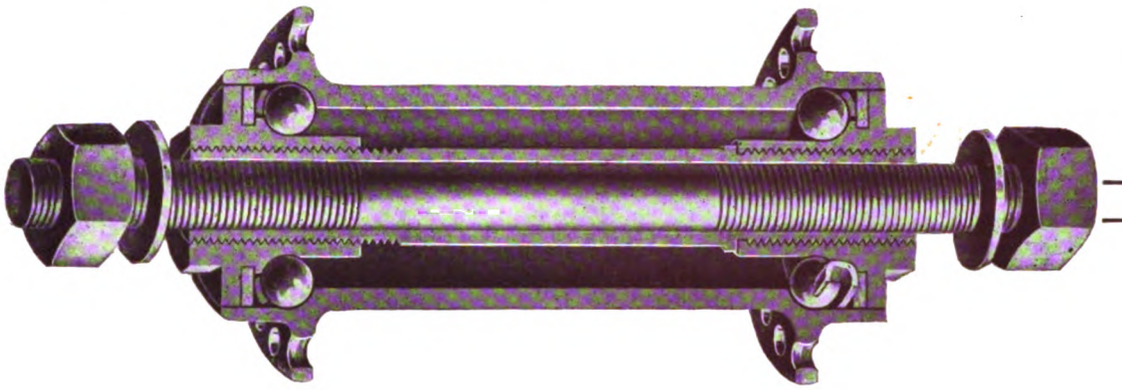
...THE...

Eclipse Motorcycle Front Hubs



A distinct advance in improved motorcycle construction is made in the Eclipse front hub.

This hub is turned from solid bar stock with the ball cups turned and ground in the ends. Cones are special stock accurately turned and ground.

Balls—Highest grade ¼-inch size in Star Ball retainers.

The bearings are protected by felt dust-proof washers.

KNOCK OUT AXLE

The cones screw on an inner quill threaded accurately to a wrench tight fit. The axle slips through the centre of this quill and can be removed instantly by taking an axle nut off one side. This permits the removal of the front wheel without springing the forks over the end of the axle.

This is one of the greatest improvements of the year, and is an improvement that all motorcycle riders will appreciate. Already adopted by the leading motorcycle manufacturers.

If you want the best in motorcycle Coaster Brakes and Hubs, get the Eclipse. They stand the test.

COASTER BRAKES, $8.00. FRONT HUBS, $2.00

ECLIPSE MACHINE CO., ELMIRA, N. Y.

Licensed Coaster Brake Manufacturers.

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2¼ H. P. Single Cylinder Engine
Two Speed Sliding Gear
Shaft Drive Transmission
Clutch with Free Engine
120 Pounds Weight
$275

F. N. BIG FOUR

New Car Type of Handle Bar Control
Two Speed Sliding Gears as an Extra
Standard Machine Has No Pedals
But Comfortable Foot Rests
[Pedals Supplied In Addition If Desired]
Many Minor Improvements
SAME PRICE

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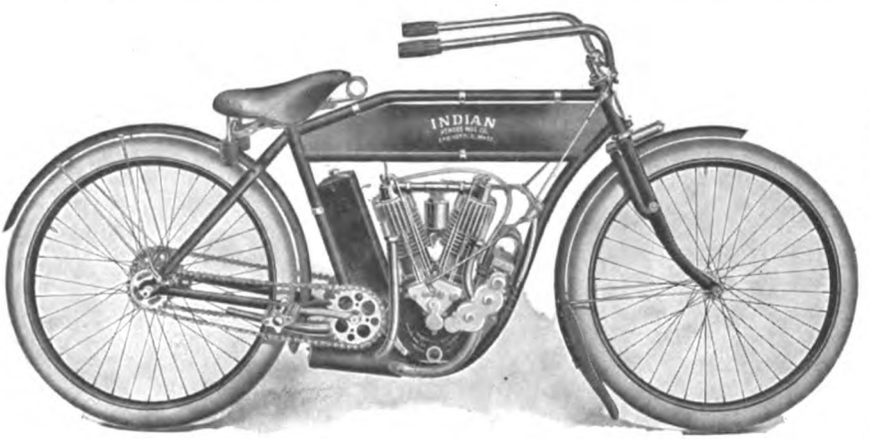
AGAIN HOLDS EVERY RECORD

1 MILE TO 100 MILES

THE INDIAN

CHAIN BELT



SEVEN KINDS

It requires Power, Endurance, Quality to Win Records. With these you can do anything. Without them, Nothing

The INDIAN has Proved its Superiority over all others by Winning Every Record for two years running. Every F. A. M. Championship, The Great N. Y.-Chicago Touring Contest and Everything Else Worth Having

The '09 INDIAN Surpasses Everything in Appearance and Quality

LOOK FOR THE INDIAN AT "THE GARDEN," CHICAGO AND BOSTON SHOWS

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TWIN-CYLINDER TRACTION TREAD ANTI-SKID

(Not Built Like a Bicycle Tire)

Traction on the Hill

Traction on the Level

Traction on the Turn

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THE UNSURPASSED

INDIAN

SURPASSES ALL OTHERS
IN EVERY COMPETITION
BECAUSE IT SURPASSES ALL
IN QUALITY, POWER,
EFFICIENCY, ENDURANCE, RELIABILITY

SIZES TO SUIT ALL

BELT OR CHAIN DRIVE

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"R-S" Motorcycles

1909 MODELS

The most advanced quality line
for the progressive dealer.

Belt and Chain drive models, Magneto or battery equipment

Loop frame models
Diamond frame models
Delivery van models
Tri-car, Chair car and tandem models

¶ Single and Twin Mechanical Intake Valve Motorcycles from 3 to 7½ H. P. A line full of new and exclusive features, improvements and refinements. The Motorcycle for universal use, Economical, Powerful, Simple,—in short "America's Best".

¶ Our Manufacturing policy,--Quality above everything else, Our Selling policy,--Protection to our selling agents.

¶ We look for "live wires" who want the best. Write us for illustrated Catalogue and full information.

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Boston Show, March 6th to 13th

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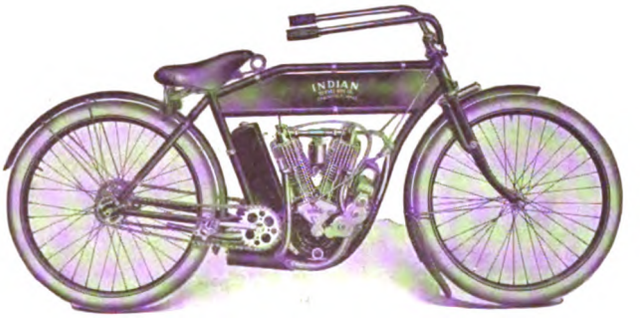
A PERFECT MACHINE IS THE SIMPLEST

THE INDIAN

Is the Simplest ever made. It has no unnecessary parts to care for, and the necessary parts are so designed as to do their work Accurately, Perfectly, Reliably. That's why the INDIAN has more power for size than anything built.

BEST QUALITY GREATEST POWER



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THINK OF THAT CONTINUOUS I BEAM REINFORCEMENT IN FRAME TUBING

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THE LEADER THAT ACTUALLY LEADS

THE INDIAN

IT LEADS EVERYTHING, EVERYWHERE, EVERY TIME--AND HAS DONE IT FOR 7 YEARS BECAUSE IT IS BEST IN THEORY, BEST IN DESIGN, BEST IN PRACTICE.

STILL AS FAR AHEAD AS EVER; only Perfect Mechanical Valves that give power and Pull--and DON'T OVERHEAT. "I Beam" Continuous Reinforcement in Frame; Band Coaster Brakes and many other exclusive features that mark it as an exclusive machine.

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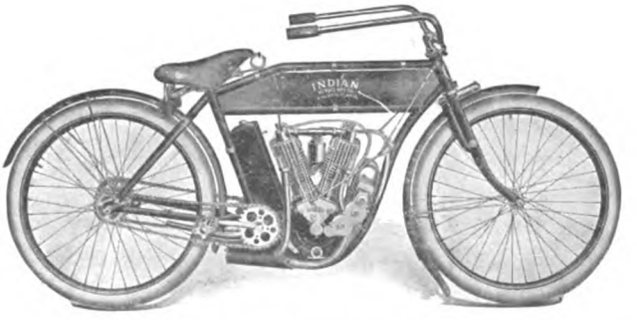

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NEVER BEATEN IN SPEED, ENDURANCE, APPEARANCE, QUALITY

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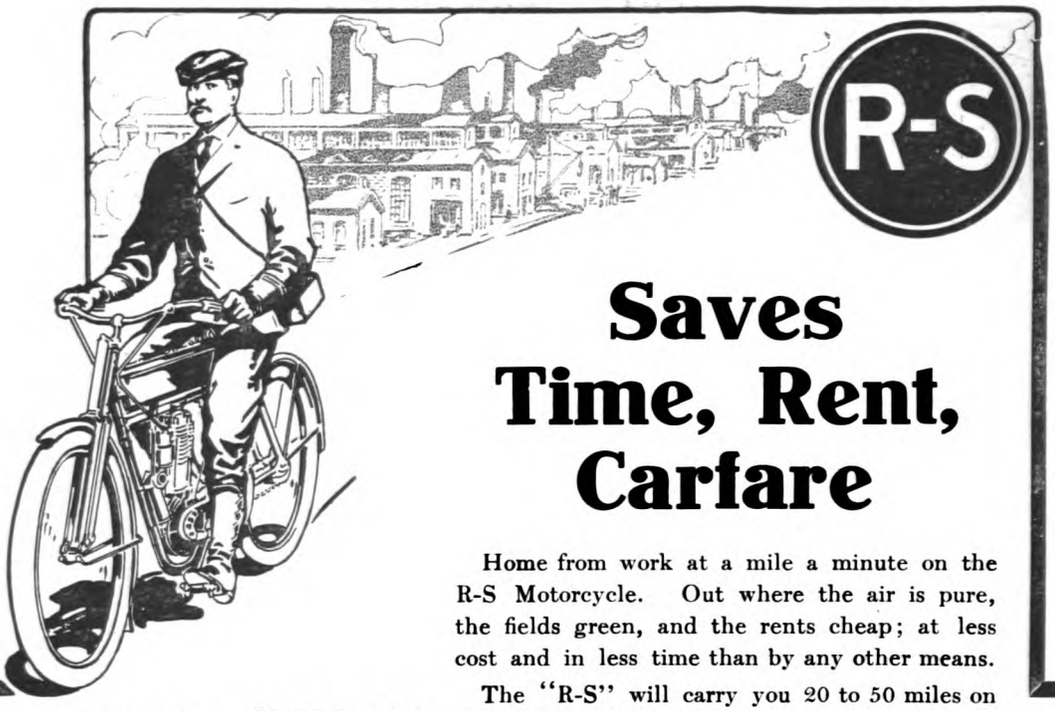

R-S

Saves Time, Rent, Carfare

Home from work at a mile a minute on the R-S Motorcycle. Out where the air is pure, the fields green, and the rents cheap; at less cost and in less time than by any other means.

The "R-S" will carry you 20 to 50 miles on 5 cents' worth of gasolene. **No Limit to Speed but the Law.** Easy to own, ride, and maintain. Simple, durable and economical. America's best motorcycle, as racer, roadster, climber or coaster. We build no "special" machines, because there can be no "special" that will excel the regular

R-S Motorcycle

Built and Tested in the Mountains

The "R-S" is the only motorcycle that ever climbed Pike's Peak. It made the climb and descent without faltering, and without using the limit of its power.

14 "R-S" models for 1909. 3½ to 7 h.p. Single and twin cylinders. Belt or chain drive. Battery or magneto ignition. Many exclusive features. Mechanical intake valve that increases power without adding weight. New and perfect pneumatic spring fork. New arrangement for insuring perfect cooling.

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Agents Wanted where we have no Representatives

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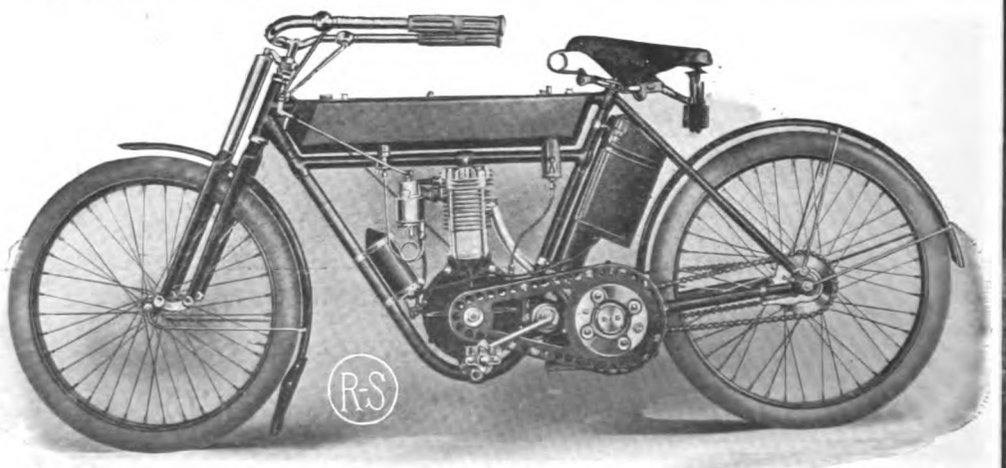

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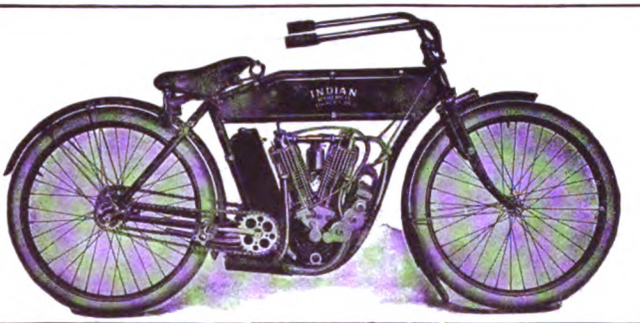
THE INDIAN WINS

It was the First Successful Motocycle in America
It Has Always Been the Best

IT DELIVERS THE GOODS

SPEED—RELIABILITY—ENDURANCE—HILL CLIMBING

QUALITY



POWER

Those New Mechanical Valves Have the Pull

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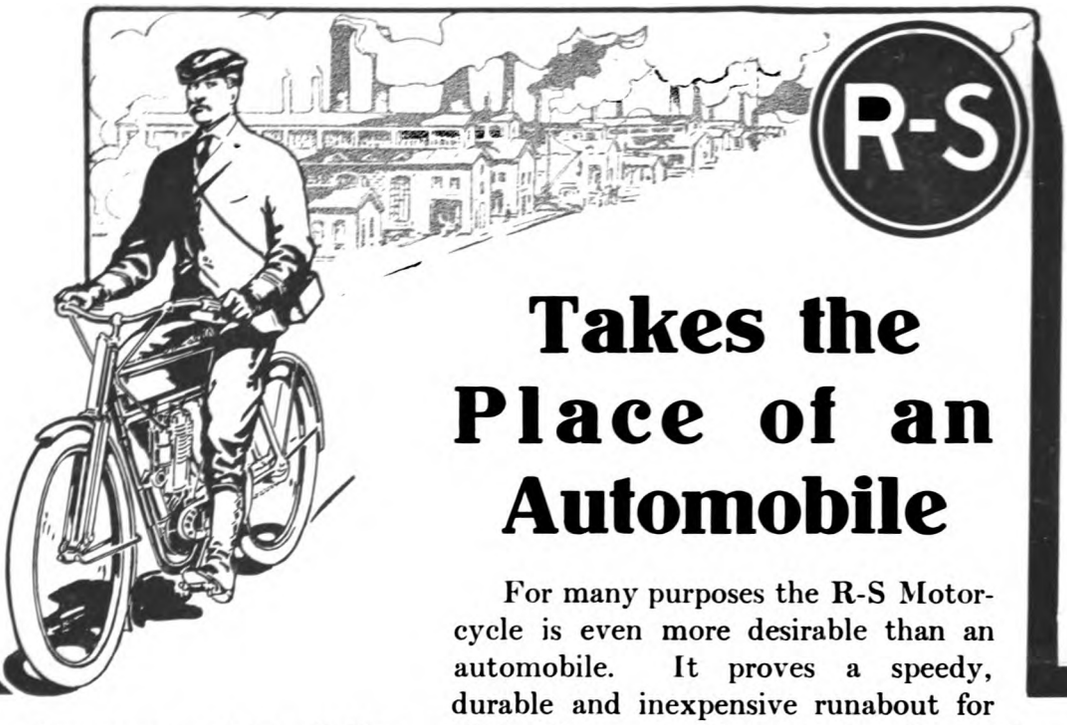

Takes the Place of an Automobile

For many purposes the R-S Motorcycle is even more desirable than an automobile. It proves a speedy, durable and inexpensive runabout for the repairman or agent in soliciting. ¶ In other occupations, it gives the workman, the mechanic, the salesman, and every man who goes to work, the speed and service of the automobile at a trifling fraction of the cost.

R-S Motorcycle

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A most unusual opportunity for good agents.

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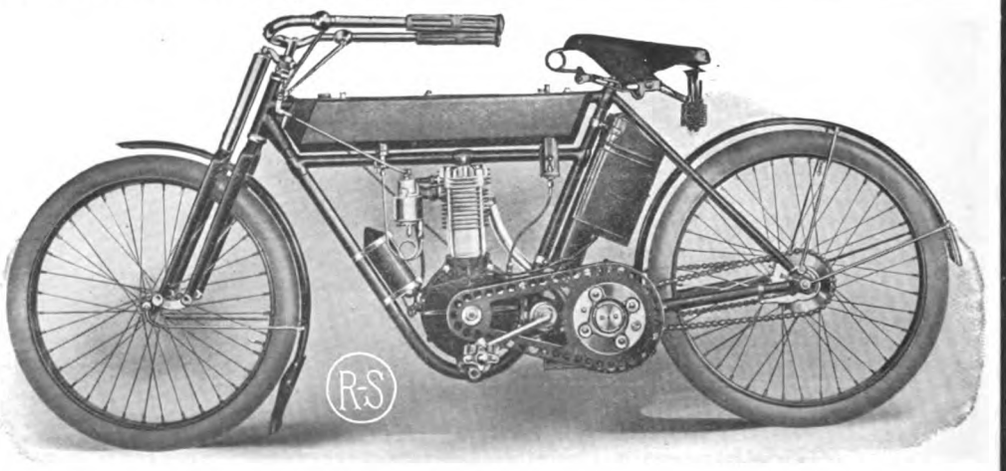

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100 MILES IN LESS THAN 100 MINUTES

by the INDIAN is a

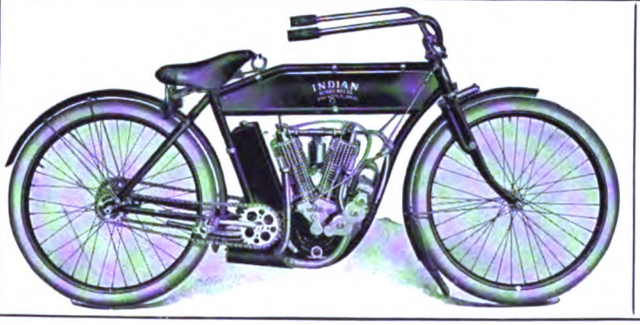
CONCLUSIVELY CONVINCING DEMONSTRATION

OF

Endurance :: Reliability :: Speed :: Power :: Quality

Reliable

Simple



Easy

Handsome

A Motocycle with a Record is Cheapest in the End — and Costs No More in the Beginning

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Ribbed Tread Motorcycle Tire

Marks the beginning of a new era for motorcycle users.
It departs entirely from the makeshift bicycle tire type which never gave satisfaction to motorcyclists—and never will—and offers instead the MOLDED FORM OF CONSTRUCTION, with four plies of fabric, and this form of construction means nothing less than—BUILT LIKE AN AUTOMOBILE TIRE. Right here it is only fair to you and ourselves to state that the Goodrich 1909 Ribbed Tread Tire is the only motorcycle tire constructed along the same lines as the best automobile tires. A construction that gives the greatest strength and at the same time is not of a heavy cumbersome nature which kills resiliency.

HARD TO WEAR OUT
EASY TO RIDE ON

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